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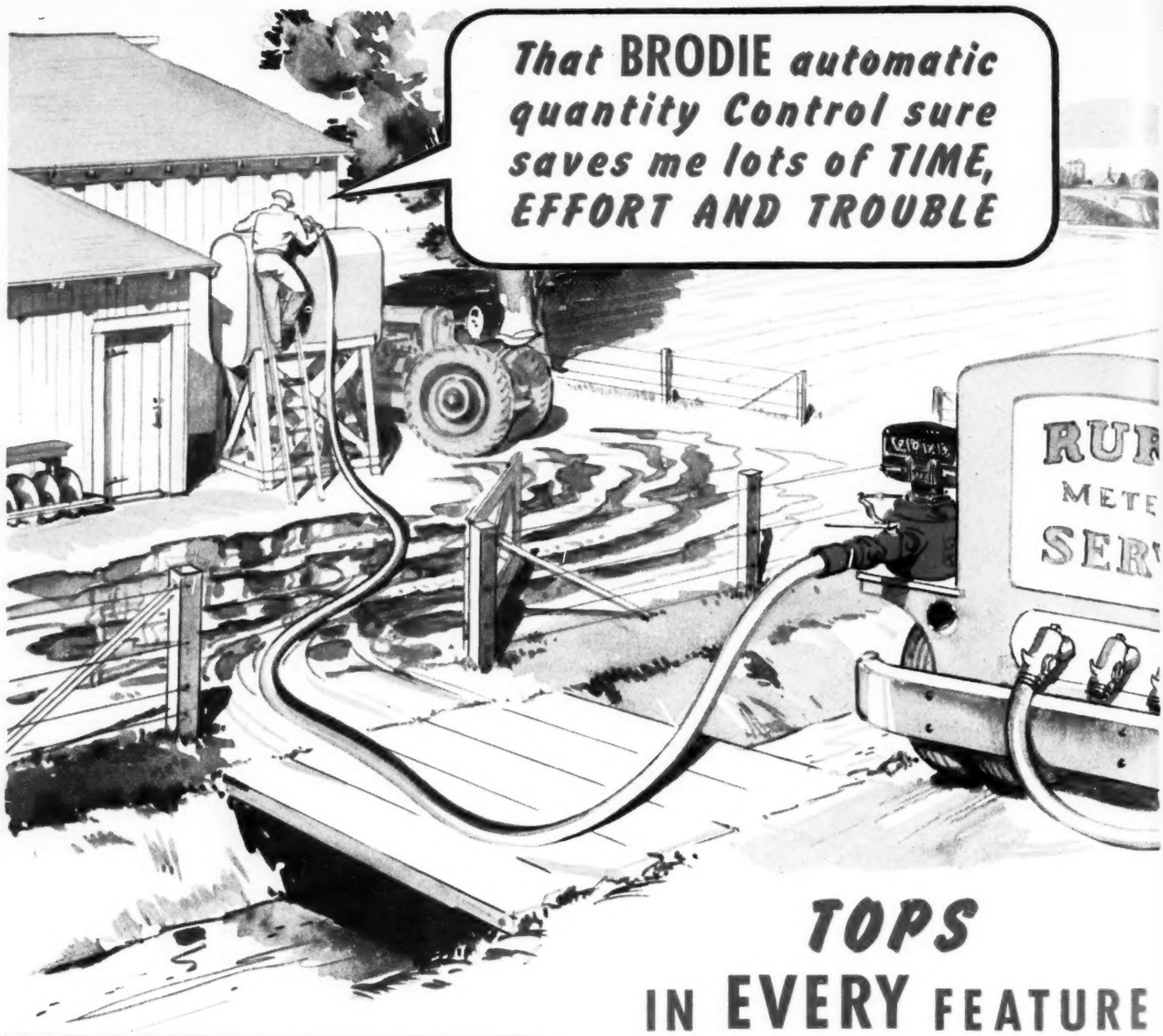

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

SINCE 1927

RALPH N. BRODIE CO., Inc.
953 61st Street, Oakland 8, California, U.S.A.
Division Offices: CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO • 302 SOUTH PEARL STREET, DALLAS, TEXAS 164 JACKSON, SEATTLE 4, WASH. • 2101 SOUTH SAN PEDRO, LOS ANGELES 11, CALIF.
Representatives and Stocks in All Principal Cities

TOPS IN EVERY FEATURE YOU WANT...

The best way to reduce time, effort and trouble on rural deliveries is to replace hand-bucketing with modern metering. *But, metering alone is not enough.* You should install meters equipped with fully automatic shut-off. . And Brodie Meters are the only ones equipped with the Brodie Automatic Quantrol, which gives you completely automatic quantity control. This permits a single operator to make off-the-road or "blind" deliveries in inaccessible places especially where long hose discharges are required. With the Brodie Quantrol, all an operator has to do is set the number of gallons to be transferred and then open the valve. When the exact gallonage has passed through the meter, it shuts-off automatically. To get the most out of metered deliveries, install Brodie Quantrol Meters. *Write for Bulletin 200, today.*

VOL. 3 NO. 12

fueloil & oil heat

APRIL 1945

Names in the News

A. E. Hess has been chosen manager of the Houston branch of General Controls Co., Glendale, Cal. Mr. Hess had many years' engineering experience with several well-known firms, and also spent some time with the U. S. Navy. As manager, he will serve users of controls throughout southern Texas, Louisiana, and southern Mississippi.

Roy Schoonfield has been appointed acting manager of the Washington branch of Gar Wood Industries, Inc., Detroit, Mich. Mr. Schoonfield succeeds A. E. Heath, who has been assigned to other duties with the Corporation.

Frank J. Nunlist has been appointed chief engineer of the L. J. Mueller Furnace Co., Milwaukee, Wisc. For the past year he has served as acting chief engineer for the Company.

P. E. Lakin, vice president in charge of marketing, New York, and E. F. Davis, vice president and chief consulting geologist, Los Angeles, have been elected directors of the Shell Oil Co., Inc., New York. Mr. Lakin has been with Shell for thirty years, during which time he has risen from office clerk to his present capacity. Dr. Davis, well known in petroleum and scientific fields, joined Shell in 1919.

Russell M. Cook has been appointed New York sales manager for Taco Heaters, Inc., New York. Mr. Cook has just returned from overseas where he served as Captain in the Army Air Corps.

Laurence P. Marron has been elected president of Home Oil Co., Passaic, N. J., one of the largest fueloil distributors in

C O N T E N T S

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816 West 5th St., Los Angeles 13, Cal. Phone: Mutual 8512

MEMBER ECA

Yearly: $3
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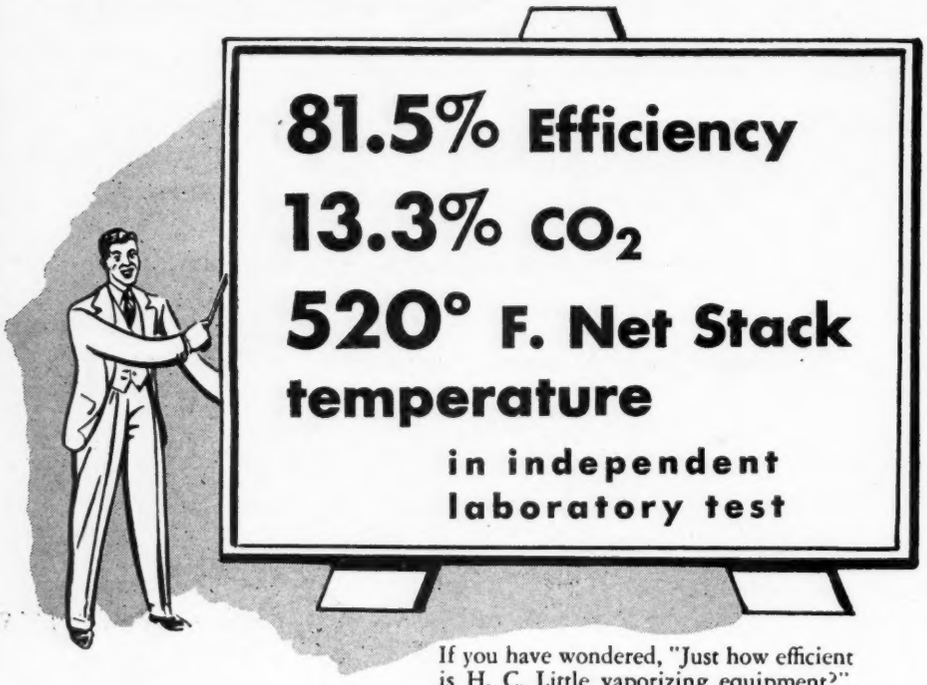
H. C. Little Vaporizing Equipment Achieves—



If you have wondered, "Just how efficient is H. C. Little vaporizing equipment?", these figures will interest you.

Condensed Report of Test

Made by Nationally Known Independent Laboratory*
(*Name on Request)

H. C. Little Heating Unit, with Vaporizing Burner

FUEL USED—Pacific Coast Specification # 200
32.8° API Gravity
Heating Value per test 19,620 BTU/pound

RESULTS OF TESTS—Average of four runs
Draft—.06 inches of water

Actual Observed Flue Gas Temperature	610° F.
Room Temperature	90° F.
Actual Net Increase in Flue Gas Temperature Above Room Temperature	520° F.
Average CO_2 in Combustion Chamber	13.3%
Average CO_2 in Flue Gases	12.5%
Average Oxygen in Flue Gases	3.8%
Average CO in Flue Gases	.2%
Overall Heater Efficiency	81.5%
Smoke	Light

This test was made in connection with certain special equipment designed by H. C. Little Burner Co., incorporating a standard H. C. Little vaporizing burner. The results indicate the extremely high efficiency which can be obtained with this equipment under carefully controlled laboratory conditions. In ordinary domestic installations, it is desirable to make adjustments which produce somewhat lower CO_2 in order to take care of unforeseen conditions, always utilizing as much as possible of the inherent high efficiency of the H. C. Little equipment.

SEND FOR NEW BOOKLET!
Write for a copy of "How to Get Real Profits in Post-war Heating," which shows the sales possibilities of H.C. Little vaporizing equipment.

H. C. LITTLE Burner Company

Head Office:
San Rafael, Calif.
Branches in Principal Cities.

the East. He succeeds his brother, *Louis E. Marron*, who becomes chairman of the board. *Nelson L. Ott* is secretary.

John F. Lebor has been elected secretary of the York Corporation, York, Pa. *Mr. Lebor*, now treasurer of the company, will combine the duties of both offices. He succeeds the late *Vincent Keesey*, who served as secretary and general counsel until his death. *Mr. Lebor* joined the York Corporation in 1940.

Peter P. Hart, has been named advertising manager of the Perfex Corp., Milwaukee. He succeeds *Malcolm Lund*, now with United Wallpaper, Chicago.

Roy F. Hawkins has been named director of PAW's Foreign Supply and Distribution Division. He succeeds *William D. Crampton*, who has been director of the division since it was organized.

W. H. Hohmeyer has been appointed manager of the Oil Burner Controls Division of the Detroit Lubricator Co., Detroit, effective April 1. *Mr. Hohmeyer* formerly was advertising manager, and succeeds F. G. Coggin who becomes manager of the Refrigeration Division, according to E. J. Ducet, sales manager.

R. S. Paltz has been chosen as advertising manager of the Detroit Lubricator Co., to succeed *W. H. Hohmeyer*, who becomes manager of the Company's Oil Burner Controls Division. *Mr. Paltz* has been connected with the Advertising Department for several years.

Elmer I. Boardman has been named Manager of Heater and Boiler Sales of Spencer Heater Division of The Aviation Corp., Williamsport, Pa., according to announcement of Wm. F. Wise, executive vice president. Mr. Boardman has had 25 years sales and executive experience with American Radiator Company; National Radiator Corporation; Richardson & Boynton Company; Armstrong Furnace Company and Lennox Furnace Company. Immediately prior to his Spencer Heater Division appointment he was vice president of Automatic Coal Burner and Affiliate Furnace Man, Inc.

Tie Up Your Local Reputation with these WELL-KNOWN NAMES

Allen

The basic, "priceless ingredient" in your success as an Appliance Dealer, is of course, your own good name in your community . . . your reputation for efficient service and fair dealing.

You capitalize on this reputation 100% when you tie it to the famous name "ALLEN" on Heaters and Ranges of known quality.

ALLEN Distributors are recognized leaders in the territories they serve – carefully selected on a basis of reputation and dependability.

Right now, it will pay you to investigate the revolutionary ALLEN "LoPilot" Oil Burning Parlor Furnace and Oil Burning Water Heater. The "LoPilot" Burner (patent pending) affords **amazing fuel-saving economy,** made possible by a new, specially designed pilot light which permits fast, **low-pilot-to-high-fire** burner operation in mild or changing weather.

ALLEN DISTRIBUTORS

THE YANCEY CO., INC.
Atlanta, Ga.

J. R. HUNT & CO.
Baltimore, Maryland

WESTERN MERCHANDISE DIST., INC.
Buffalo, New York

UNITED DISTRIBUTING CO.
Cambridge, Mass.

SOUTHERN RADIO CORP.
Charlotte, N. C.

THE YORK SUPPLY CO.
Cincinnati, Ohio

THE SMITH BROS. HDWE. CO.
Columbus, Ohio

SMALL & SCHELOSKY CO.
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B & W DISTB. CO.
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GEO. H. LEHLEITNER & CO., INC.
New Orleans, La.

HARPER & McINTYRE CO.
Ottumwa & Cedar Rapids, Iowa

ARIZONA WHOLESALE SUPPLY CO.
Phoenix, Arizona

APPLIANCE WHOLESALERS OF OREGON
Portland, Oregon

NELSON & SMALL
Portland, Me.

WYATT-CORNICK, INC.
Richmond, Va.

DALLMAN SUPPLY CO.
Sacramento and San Francisco, Calif.

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St. Joseph, Mo.

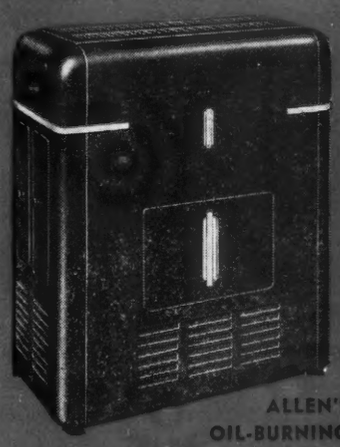
RYAN RADIO & ELECTRIC CO.
St. Louis, Mo.

MOTOR POWER EQUIPMENT CO.
St. Paul, Minn.

RADIO TELEVISION & APPLIANCE CO.
Seattle, Washington

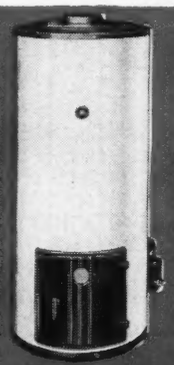
RUDNING-ROBERTSON CO.
Sioux Falls, S. Dakota

GOUGH INDUSTRIES, INC.
Los Angeles, California



ALLEN'S OIL-BURNING PARLOR FURNACE

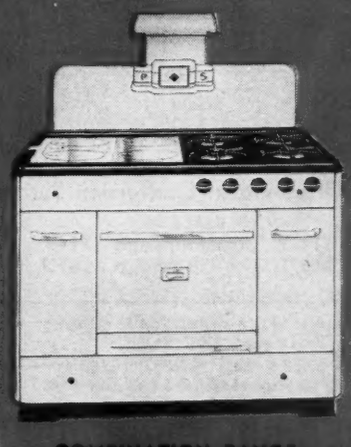
"Twin-Eight" Oil-Burning Parlor Furnace: two heaters in one cabinet (individually operated).



WATER HEATER No. 3041

Fully insulated; fast recovery rate. High efficiency, low stand-by loss.

Allen's LoPilot Burner



COMBINATION RANGE No. 4000

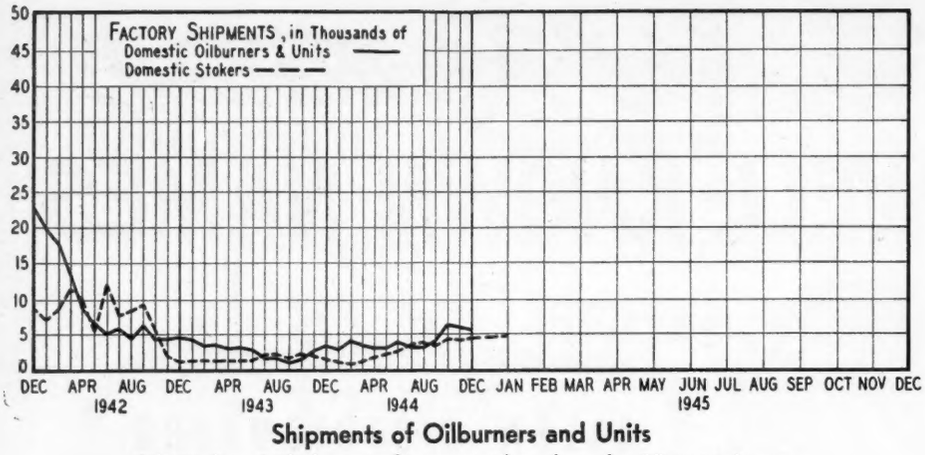
Approved by AGA Testing Laboratories; automatic change from one fuel to other.

ALLEN MANUFACTURING CO., INC.

NASHVILLE, TENNESSEE

"Quality Stove Builders Since 1867"

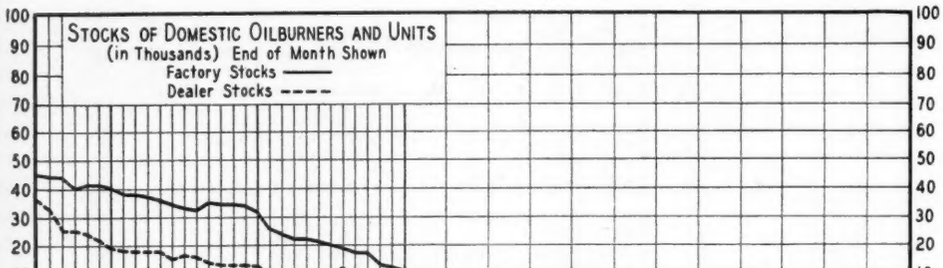
fueloil & oil heat


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 85 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	DECEMBER			TWELVE MONTHS		
	1944	1943	Percent Change	1944	1943	Percent Change
Conversion	4,354	3,030	+ 43.8	36,636	19,116	+ 91.6
Boiler units	626	100	+526.0	6,300	6,338	— 0.6
Furnace units	619	163	+279.2	5,686	5,337	+ 4.9
All domestic	5,599	3,293	+ 69.9	48,622	30,791	+ 58.2
Commercial	2,793	3,383	— 17.4	32,115	49,411	— 35.3
Total	8,392	6,676	+ 25.5	80,737	80,202	+ 0.6


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN SEP DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

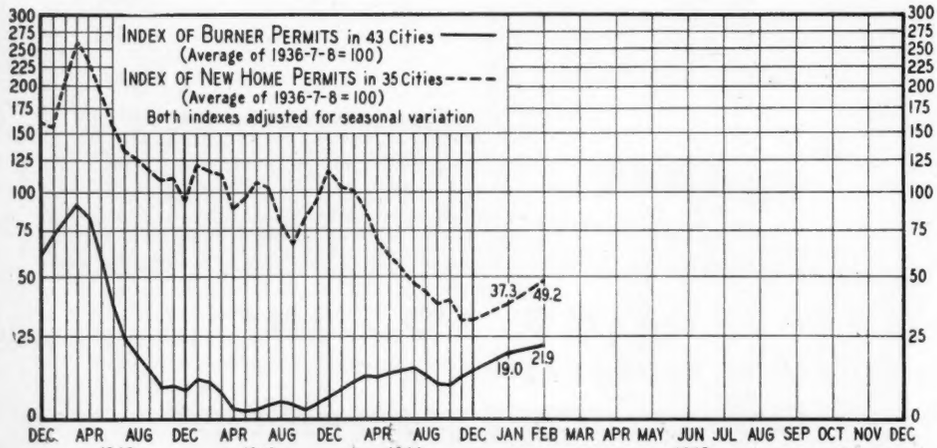
February Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	Top price*	Low price	Top price*	Low price	Top price*	Low price
Highest	$390	$195	$750	...	$625	$385
Lowest	200	165	400	...	410	310
Feb. Aver.	270	178	507	...	484	347
Jan. Aver.	260	181	467	...	467	327

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more, for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE			RETAIL		
February	115.2	Six months ago	114.0	112.8	Six months ago	113.0
January	116.7	Year ago	105.7	113.5	Year ago	112.1


INDEX OF BURNER PERMITS in 43 Cities
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS in 35 Cities
(Average of 1936-7-8=100)
Both indexes adjusted for seasonal variation
37.3
49.2
19.0
21.9
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Oilheating Trends

INSTALLATIONS OF DOMESTIC oilburners and units in February are estimated at 4,388, a rise of 12.5% from the 3,896 in the same month a year ago. This modest increase is considerably less than in any recent month. The reasons are clear. Burners are too scarce to take care of people who would otherwise buy, and domestic reconversions were prohibited as of February 2. These reconversions are not generally counted as new equipment sales, but on a fair percentage of them new equipment was sold and those are classed as new sales. February installations were divided: 73% conversion burners; 19% boiler-burner units and 8% furnace-burner units. Total installations for the year to date are 15,728 against 10,520 last year.

BURNER STOCKS: Domestic burners and units in dealer stocks on March 1 were approximately 5,600, a new low point. Of all dealers reporting this month, 72% had one or more burners on hand, compared with 77% who had them the previous month. Factory stocks on December 31, the last date for which figures are available, were 11,184. Because of inability to get motors, factory burner production is running far behind the WPB authorizations and will probably continue that way until after victory in Europe.

SERVICE INCOME: Reporting dealers averaged $2,432 service department income in February, virtually the same as the $2,421 reported by the same dealers for February 1944. January income of this group averaged $2,823 and December $3,173.

GETTING BURNER PARTS: Periodical checks are made to learn how serious is the oft-heard complaint about inability to get burner service parts. Such a check was made this month. Motors, pumps, controls and transformers continue to be the most scarce items, in the order mentioned. The percent of total dealers reporting scarcities and the percent of total scarce items mentioned are:

	% of dealers reporting scarcity	% of all scarcities mentioned
Motors	70	31
Pumps	49	22
Controls	39	16
Transformers	18	8

Other scarcities listed by 3% or more of dealers were nozzles, electrical materials,

275-gallon tanks, replacement oil boilers and chrome steel parts. Less critical shortages, mentioned by less than 3% of dealers were brass and copper fittings, unit heaters, pressure regulating valves and rotary burner ignitors.

TRUCK PARTS SHORTAGES: Delivery of fueloil this season has been handicapped by trucks being laid up sometimes as long as 60 days for repairs that normally would take little time. Most serious tie-ups have been caused by inability to get rear end parts, transmissions, gears and axles, in the order listed. Mentioned less frequently were motor blocks, motor bearings, valves and electrical parts. All truck manufacturers are permitted to make repair parts in the volume needed, but apparently war production is crowding out this work. ODT is working on the problem.

HANDLING HEAVIER DISTILLATES: For next heating season PAW forecasts a larger percentage of cracked stock in heating oil than this season, due to larger demands for aviation gasoline and jet propulsion fuel. Dealers were asked this month how much trouble the lower gravity fuels had caused this season and what they had done about it. Opinions were almost equally divided three ways: 30% of dealers had little or no trouble; 36% had to give it considerable attention, but some of these say that they had less trouble than anticipated; the remaining 34% report considerable difficulty. Only answers from District I were counted on this question, since the rest of the country still gets a large percentage of straight run, higher-gravity, product.

Asked what they did about it, 49% of the District I dealers did considerable additional service work, including adjusting gun burners for more air and having to clean an excessive number of nozzles, pumps and strainers; 13% say they blended kerosene into the distillate for types of burners that need the higher gravity fuels; 26% say that they switched these critical burners to straight kerosene; 30% did nothing—ignored the whole problem. This last group is located mostly in cities and areas known to have received very little of the lower gravity oils.

NEW RATION PROGRAM: Elsewhere in this issue is reported the probable conditions or changes in the program for the 1945-46 heating season. Dealers were asked to name the one point in the present program proving most troublesome and their recommendations for change. Most prevalent among the suggestions was that initial rations should be adjusted to include proven need for additional oil for consumers who have had to get repeated hardship relief. Second in number of times mentioned was a reduction from five to three periods in the East. Third and fourth, respectively, were the extension of mandatory ration banking to include all central heating users and provision for more adequate hot water allowances. Less frequently mentioned were: eliminate periods completely . . . eliminate period coupons for users under 1,000 gallons . . . give dealers authority to make emergency drops up to 100 gallons on promissory notes . . . raise age limit on children's allowance to 10 years . . . provide an old folks' allowance similar to children's allowance . . . attach to coupon sheets a receipt to be torn off and returned to consumer by dealer . . . eliminate Class 3 coupon sheets for any central heating users . . . better perforation on coupon sheets.

It is interesting that 21% of the dealers reporting on other questions of the month ignored the one on rationing plan changes, indicating that they had no acute problems. Another 18% answered the question by saying that the present program is fully satisfactory and they recommend no changes.

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
February		2 MONTHS			February		2 MONTHS	
1945	1944	1945	1944		1945	1944	1945	1944
0	0	..	0	Albany, New York	0	..	1	..
..	..	..	..	Binghamton, New York	0	0	0	0
52	..	112	..	Boston, Massachusetts	0	0	0	0
0	12	17	19	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Des Moines, Iowa	0	0	0	0
16	21	31	59	Detroit, Michigan	109	365	294	688
2	2	5	3	Elizabeth, N. J.	..	..	..	..
5	10	12	11	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	0	1	0
..	..	..	..	Hackensack, N. J.	0	0	0	0
15	7	15	16	Hartford, Conn.	..	..	..	..
1	0	6	1	Irvington, N. J.	0	0	0	0
..	..	..	..	Lynn, Massachusetts	0	0	0	0
16	11	31	31	Minneapolis, Minn.	2	0	16	0
4	4	8	7	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	0	0
15	4	29	13	Mt. Vernon, New York	..	..	..	..
23	9	52	30	New Bedford, Mass.	..	..	..	..
5	0	10	1	New Haven, Conn.	..	..	..	..
0	0	0	0	New Orleans, La.	..	..	..	..
5	0	54	1	New Rochelle, N. Y.	0	0	0	0
1	0	..	0	Norfolk, Virginia	1	1	5	1
0	1	1	1	Oakland, Calif.	..	..	..	..
6	8	18	29	Omaha, Nebraska	32	37	41	94
1	0	1	0	Orange, New Jersey	0	0	0	0
7	0	9	5	Paterson, N. J.	0	0	0	0
..	..	..	..	Plainfield, N. J.	0	0	0	0
2	4	14	8	Portland, Maine	0	0	..	0
20	10	45	13	Portland, Oregon	13	35	25	101
2	2	20	..	Providence, R. I.	0	0	0	0
..	..	..	..	Reading, Penna.	0	0	0	0
0	0	0	0	Richmond, Virginia	34	0	87	0
2	0	5	0	Rochester, N. Y.	..	..	..	..
0	5	1	7	Rockville Center, N. Y.	0	0	0	0
2	0	5	0	Salem, Massachusetts	0	0	0	0
5	6	18	12	St. Louis, Missouri	0	0	0	0
13	2	22	5	St. Paul, Minnesota	1	0	6	0
5	3	9	5	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	88	66	178	148
..	..	..	..	Springfield, Mass.	0	0	0	0
8	2	17	4	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, New York	1	0	1	0
..	..	..	..	Trenton, New Jersey	0	0	3	0
..	..	..	..	Utica, New York	0	0	0	0
14	13	57	19	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	0	0	0
3	5	6	8	White Plains, N. Y.	0	0	0	0
0	0	3	2	Wilmington, Delaware	0	0	0	0
6	11	21	17	Worcester, Mass.	..	..	..	..
7	8	16	15	Yonkers, New York	..	..	..	..
211	160	538	342	*Totals*	281	504	657	1032
+31.7		+57.1		*Percent Change*	—44.3		—36.2	

***Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.**

Vision

Some things can be seen with the naked eye; others require VISION that is based on faith in the future.

VISION has brought Luxaire to a commanding position in the heating industry. VISION, seeing the need for improvement in living standards, has led to the development of an unsurpassed line of warm air furnaces and air conditioning units.

VISION made possible the doubling of the Luxaire manufacturing facilities in war-time, to help win the fight so that the American way of living can again be resumed and expanded.

Luxaire's ability to foresee, to develop, and to achieve, means that after Victory, Luxaire will be ready for greater leadership than ever in the heating industry, with a line of warm air furnaces and air conditioning units which will help you insure your future in the heating field.

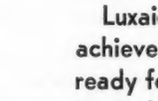
Luxaire

THE C. A. OLSEN MANUFACTURING CO. ELYRIA, OHIO

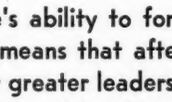
THE PRE-WAR LINE OF LUXAIRE WARM AIR HEATING AND AIR CONDITIONING UNITS FOR COAL, GAS, OIL

Series 600 Coal Fired Steel Gravity Furnace

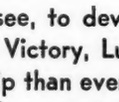
Series C Coal Fired Cast Gravity Furnace



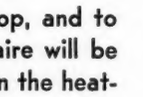
Series 700 Coal Fired Steel Gravity Furnace



Series AC-700 Gas Fired Steel Air Conditioning Unit



Series A Gas Fired Steel Air Conditioning Unit



Series G Coal Fired Steel Gravity Unit

Series H Gas Fired Steel Uti.ity Air Conditioning Unit

Series 8000 Oil Fired Steel Air Conditioning Unit

fueloil & oil heat

Money for the Salesman

Plans Are Interesting but Only Dollars Buy Groceries

by
Ray Reynolds

ALMOST ANY DAY NOW this fascinating era of postwar planning will have come to an end, either because of the termination of the war, or because the planners will have capitulated from sheer exhaustion.

Contemplating this, we are moved to ask the question, "Just what has been accomplished?" This so-called planning we have engaged in these long years was supposed to have equipped the nation to go forward after the war to greater sales, production, and employment than ever before, for we have heard the prediction that the age of distribution would surely arrive once hostilities ceased. If this be so, then some of the tangible results of this planning should begin to emerge where such practical people as the small distributors and dealers of the country can get a look at them and examine the devices to be employed, for everyone should know that the bottleneck in distribution is at the point of sale, which is the direct responsibility of the retailer.

Retailers Most Important Cog

Because we are firmly convinced that the retail dealer must, in the final stage, play the most important part in this predicted crusade for greater sales, we naturally have felt that the dealers of the country would know the plans; they at least should have gotten the signal from our national planners, even if many of us on the sidelines didn't know the score. However, a check with several dozen dealers revealed that they have not heard the magic word and are somewhat disillusioned by the fact that the apostles of economic Utopia have kinda let them down. As one chap remarked, "First I thought that Roosevelt would show me the way; then I thought my state planning board, which was spending my state taxes, would blaze the trail, and at last I thought that the manufacturer whose merchandise I hope to sell would come to the rescue, but if I had to start selling tomorrow, I would be forced to enter the race with the same old nag that I rode before, for nothing new has been added."

About this time, we began feeling a certain weakness in the pit of our stomach for we could not help but remember some of the speeches we had heard from people in high places, as well as all those articles and editorials that have been assuring our boys who are fighting our battles in the far-away corners of the world that they would be coming back to a land of promise and opportunity.

Well, maybe they will. We too have hope, even if our faith in black magic is not what it should be. Anyway, we got the feeling that planning from the ground up might be more understandable than all the planning from the top down. Besides the time for planning is getting short, and if we don't get in a lick soon, it will be too late. We have a hunch that planners will be about as popular with the public when the folks find out what wasn't planned as was the banker during the depression when the small fry discovered that his banker "didn't have no dough."

Want to Pay Better

We hurried forthwith to some dealers and asked them just what they thought was needed to increase their sales after the war by 40% over prewar volume. We were told one of the following three things in most all the cases: (1) More salesmen; (2) Better salesmen; and (3) Better method of compensation for salesmen.

After analyzing these three points for a few minutes, it is surprising how nearly all three look alike. Most dealers, we feel, will agree that if we had the third one the other two would follow as a natural course. Both more salesmen and better salesmen can be had if we can improve the methods of compensation, for it just beats all what you can get with money.

We were so impressed with our survey up to this point that we started concentrating on this subject of salesmen's compensation seriously. We asked more questions and we got more answers, and the answers we got can be summed up about like this:

About only one dealer or sales manager in approximately fifty is sufficiently satisfied with his previous or present method of salesmen's compensation to want to retain it, and only about 1% are so rash as to recommend his system to others.

The so-called expert opinion on the subject extends from one extreme to another. For example, one Midwestern dealer demands that salesmen be treated like other people and be paid a straight salary. The other extreme was encountered when a sales manager in New England, who after twenty years of work, sweat, and tears with literally hundreds of salesmen, ruined what had been a delightful cocktail hour, up until then. He exploded with the statement that he was all fed up and he hoped to God that salesmen would unionize so that the unions could inherit the biggest headache in all business—not liking unions, he insisted that this would teach 'em.

We doubt, however, that the Lord will raise this weighty burden from the backs of weary dealers by such a simple expedient as permitting the unions to take over.

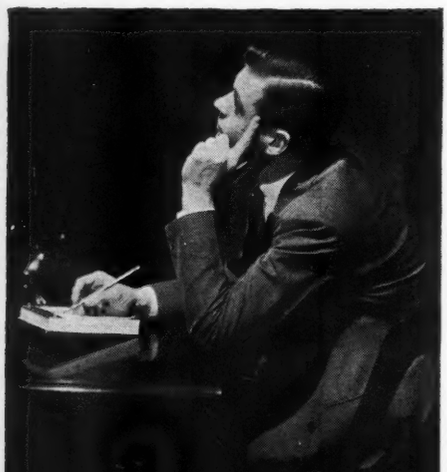
Methods of the Past

Before attempting any soul-searching for the causes of our lack of progress, it might be well to take a look at the standard and substandard methods that have been employed to pay, or not to pay, our sales people.

The following methods, we believe, are the basic ones, and we are inclined to

feel that if any have been omitted that it will develop that they are mostly variations of those listed.

The straight salary method is not generally used. It has been applied on occasions over the years and to our knowledge has resulted only in stagnation. Sometimes the boss liked it and sometimes the men said they liked it, but invariably, when it was persisted in, the progressive manufacturer has had to lift his franchise for lack of sufficient volume of sales. The old spark just wasn't there.



"Some tanglible results *of all this planning should begin to emerge."*

The Salary and Commission method is one of the better methods, theoretically, for the salesman get sufficient salary to provide for his needs and a small commission to supply the incentive for greater production. But many sales managers and dealers who have used this one claim that too many salesmen spend their time trying to devise a means of living within the fixed salary rather than being inspired to increase their standard of living by fighting for the small commissions. The point seems to be in this case that if a fairly decent salary is paid, the dealer does not have sufficient margin to pay a commission large enough to really foster greater effort.

The Commission and Salary plan calls for most of the salesmen's margin to be paid in commission supplemented by a very small salary. Sometimes this salary is called "expenses," sometimes it is referred to as a fixed bonus, but regardless of the name, it seems to have very little effect on the men's morale and practically none on his total income.

The drawing account against commission is a system that probably has been most widely used, despite dealers' and sales managers' coy and evasive remarks to the contrary. Dealers and sales managers many times displaying a reluctance to admit the use of drawing accounts, seeming to believe that this is a mark of managerial weakness. However, the number who have escaped using the drawing account, at least on occasion, are in a distinct minority.

This method has been used so widely because it has proven so practical. It has enabled many a company to acquire good salesmen when it seemed that they could be attracted in no other way. It has beyond question saved dealers and sales managers much valuable time which they felt that they could not afford to give to the trying job of extensive advertising and the long hours of interviewing that so frequently are required when straight commission is adhered to.

Yes, it gets salesmen alright, and sometimes good ones, but it is loaded with more potentialities for disaster than any other one plan. It probably can be said without fear of question that more merchandising firms have experienced adversity because of "advances" than from any other cause, natural or otherwise. Only the very most careful and capable managers can be trusted to administer drawing accounts. However, all too frequently the device is used as a substitute for management rather than an aid to it.

The salary and draw against commission plan is a bit of fancy manipulation that has never failed to fascinate, if not confuse, the uninitiated. It calls for the payment of a salary and a drawing account. Theoretically the salary does not have to be liquidated, but the drawing account portion of the man's income must be washed out by his earned commissions.

Where a retail sales organization has had the advantage of first-class sales management over a period of years and the resulting sales force has been slowly acquired and carefully trained, *the salary and bonus method* seems to be well-liked by both men and management because it does reduce turnover in sales personnel. This is an aid to management and honestly permits the salesman to participate in company profit. This maintains good morale and assures the company of interested employee participation in keeping down overhead and in maintaining satisfactory gross margins.

Regardless of the good points here evident, we again hear sales management constantly complaining that proper initiative is lacking, that each man has a feeling that if he lets down a little it will have no appreciable effect on his personal income, and when this attiude is collectively applied, it results in the sales force becoming more profit-conscious than sales-conscious.

The insurance business probably contributed *the salary or draw based on previous production system.* Certain companies have used variations of it for many years. It consists of computing the salesman's income for a specific period of time, say three- or six-month periods, and then dividing this income by twelve or twenty-four weeks. This sum then becomes the salesman's salary or draw for the next period, regardless of what he makes during that time. Adjustments are made at the beginning of each new period.

The percent of the gross method is the old system of getting what the traffic will bear. In this case the dealer presents his salesmen with a cost plus overhead figure for each job, also a minimum selling price, but the maximum selling price is determined by the salesman's ability. The gross profit figure is divided on a percentage basis between the dealer and the salesman, the percentage usually being either 33 1/3% or 50% for the salesman.

The salary for work and commission for sale method calls for paying the man a fixed sum for performing definite functions that are preparatory to selling, such as getting prospects, making surveys, conducting presentations, etc. A figure of one, two, or three dollars is the customary amount to pay for these operations. In this manner the salesman can make ordinarily $20 to $30 a week by doing his daily work well and consistently. This money is either given as a draw against commissions or it is paid as a salary and is not charged to the salesman's account. When a sale is closed, a commission is then paid. This method has its appeal but calls for some fancy guessing on the part

(*Continued on page* 86)

What Price Fuel?

Comparative Costs of Oil, Gas, Coal, by Therm Analysis

by
F. B. Caldwell*

LOCALLY, AT ANY POINT, fuel prices can be determined on a basis of cents per gallon for oil, cents per thousand cubic feet for gas and dollars per ton for coal. BTU values can then be determined for the grades of oil, gas and coal used competitively for automatic domestic heating in oil and gas burning equipment and stokers, or where coal is hand-fired.

For example, in a city where oil is selling at 7 cents per gallon (140,000 BTU per gal.), gas is selling at 40¢ per thousand cubic feet (550 BTU per cubic foot) and coal is selling at $9.00 per ton (12,000 BTU per pound), the unit prices of the various fuels can be resolved into price per therm (100,000 BTU's) as a common denominator.

$1.00 will then buy 13 therms in oil at 65% efficiency, 9.7 therms in gas at 70% efficiency and 14.7 therms in coal at 55% efficiency.

Assuming the required BTU input for heating a dwelling, from fuel burned at 100% efficiency is 200,000,000 or 2,000 therms,—the number of therms required divided by therms purchasable for $1.00 shows the annual heating cost.

In this example the comparative costs are shown to be $153.84 for oil, $206.18 for gas and $136.05 for coal.

This method of comparing costs assumes that local weather conditions to determine design for maintenance of inside temperature required and the average annual local degree day load have been considered in arriving at BTU input requirements.

Heating cost comparisons can and do show amazing results, depending initially upon the costs compared and, beyond those costs, upon the manner in which they were calculated.

Equitable cost comparisons for domestic space heating should take into consideration, the calorific value of the fuels compared, which are fairly comparable for use with comparable heating equipment designed for domestic heating. Efficiency, for determining the effective, as compared to delivered BTU's per gallon, per cubic foot or per pound of fuel should then be considered with a view to granting and claiming only reasonable efficiencies for the various fuels.

Cost per unit of fuel can then be used to determine overall seasonal heating costs for the particular job in question.

Jobs for which comparative heating costs are figured may fall into several different types. The approach necessarily has to vary depending upon the type of job. For example, domestic heating in the planned or projected stage may present a job of figuring from tentative plans. In such a case, only an estimate of effective BTU in-put can be considered.

In another case, plans and specifications, covering specified heating equipment, together with architects' or heating contractors' calculations of heat loss, may be available. In such an instance, particularly if an estimate of fuel requirements has been included, a cost determination on a reasonably accurate basis can be made. Heating cost comparisons are more likely to be sought in the case of the first example, where those concerned have a great interest in determining comparative costs but little data available on which cost comparisons can be predicated.

A different approach is called for when the need is to compare known costs for a fuel already in use, with calculated costs for other fuels for the same heating load. Equitable cost comparisons can then be made on a basis of BTU's purchased for $1.00 in the case of the fuel in use, and purchasable for $1.00 in the case of fuels being compared. Efficiencies can be considered on a basis of attributing effective BTU values for the fuels being compared, versus the known (or attributed) effective BTU value of the fuel in use.

Unfortunately there are only a comparatively small number of instances where comparisons are possible of actual known heating costs based upon experience in the same dwelling with various fuels used in the same equipment or fairly comparable equipment designed for the use of the particular fuels used. Changes from one fuel to another are not too uncommon, but experience in the use of more than two fuels in one dwelling is exceptional.

The sale of heating equipment does not always involve an estimate or a determination of heating costs and not all heating equipment salesmen are, in a broad sense of the term, heating engineers. Salesmen may therefore rely upon a pet

Fueloil, No. 2 or No. 3, at 140,000 Btu per Gallon

Price per Gallon	*Price per Therm*	*Therms Bought for $1.00*	THERMS UTILIZED PER DOLLAR At *Various Equipment Efficiencies* 80%	75%	70%	65%	60%
5.00¢	3.57	27.9	22.3	20.9	19.5	18.1	16.8
5.25	3.75	26.6	21.3	20.0	18.6	17.3	16.0
5.50	3.93	25.4	20.3	19.1	17.8	16.5	15.2
5.75	4.11	24.3	19.4	18.2	17.0	15.8	14.6
6.00	4.28	23.3	18.6	17.5	16.3	15.2	14.0
6.25	4.46	22.4	17.9	16.8	15.7	14.6	13.4
6.50	4.64	21.5	17.2	16.1	15.1	14.0	12.9
6.75	4.82	20.6	16.5	15.4	14.4	13.3	12.4
7.00	5.00	20.0	16.0	15.0	14.0	13.0	12.0
7.25	5.18	19.3	15.4	14.5	13.5	12.6	11.6
7.50	5.36	18.5	14.8	13.9	13.0	12.0	11.1
7.75	5.54	18.0	14.4	13.5	12.6	11.7	10.8
8.00	5.71	17.5	14.0	13.1	12.3	11.4	10.5
8.25	5.90	17.0	13.6	12.8	11.9	11.1	10.2
8.50	6.07	16.5	13.2	12.4	11.6	10.7	9.9
8.75	6.25	15.9	12.7	11.9	11.1	10.3	9.5
9.00	6.42	15.5	12.4	11.6	10.9	10.1	9.3
9.25	6.60	15.0	12.0	11.3	10.5	9.8	9.0
9.50	6.78	14.7	11.8	11.0	10.3	9.6	8.8
9.75	6.96	14.3	11.4	10.7	10.0	9.3	8.6
10.00	7.14	14.0	11.2	10.5	9.8	9.1	8.4

*Secretary, Burning Oil Distributors Assn., Chicago Oil Burner Assn., and Distribution Division of OHI.

formula based upon sound engineering principles and calculations or based upon an analysis of actual costs obtained from spot checks or surveys of users of various fuels. Such formulae, although differing greatly, as well as the simple rule of thumb procedures often used, seem to result in only inconsequential differences in cost determinations. However, the most equitable heating cost comparisons will result from considering the known heat loss for a job, the probable fuel efficiencies to determine required BTU in-put and the unit costs of the fuels compared.

Unit costs of gas and coal are somewhat more difficult to determine than is the unit cost of oil. Oil, priced by the gallon, is, because of competition, usually subject to only those price differentials at any given time which are due to quantity brackets based upon size of delivery. Additional minor charges may be made, due to special sales taxes or other taxes in some localities.

Special Service Charges

Coal is frequently subject to additional special service charges, in addition to the per ton price for "wheel in" or "carry in" service or for bagging. These additional charges for any of such services may run from 50¢ to $1.00 per ton. Still another charge may be imposed for coal deliveries, amounting to an appreciable item per ton for small orders when such orders are for less than the prevailing "load" quantity. Oil-treated coal generally costs more, accounting for still another special item in arriving at the over-all per ton price.

Gas company rate schedules are something to reckon with when an actual average per therm or per thousand cubic foot rate is sought. Various ingenious methods are employed in arranging gas heating rate schedules to "step-up" the initial cubic foot or therm usage each month. For example, a rate schedule applicable to domestic space heating provides for a rate, per thousand cubic feet of 45¢, but the "stepped up" rates, applying to the first few thousand feet used *each month* results in an average rate year round, for space heating use, of 49¢ per thousand cubic feet.

The tables appearing herewith are designed to show BTU value, expressed in therms, as a common denominator, purchasable for $1.00 at efficiencies shown therein.

Natural Gas at 1,000 Btu per Cubic Foot

(100 cubic feet per therm)

Price per M Cu. Ft.	Price per Therm	Therms Bought for $1.00	THERMS UTILIZED PER DOLLAR At Various Equipment Efficiencies 85%	80%	75%	70%	65%
$ .20	2.00¢	50.0	43.0	40.0	37.5	35.0	32.5
.22	2.25	44.4	37.7	35.5	33.3	31.1	28.9
.25	2.50	40.0	34.0	32.0	30.0	28.0	26.0
.28	2.75	36.3	30.9	29.0	27.2	25.4	23.6
.30	3.00	33.3	28.3	26.6	25.0	23.3	21.7
.32	3.25	30.7	26.1	24.6	23.0	21.5	20.0
.35	3.50	28.6	24.3	22.9	21.5	20.0	18.6
.38	3.75	26.7	22.7	21.4	20.0	18.7	17.4
.40	4.00	25.0	21.3	20.0	18.8	17.5	16.3
.43	4.25	23.5	20.0	18.8	17.6	16.5	15.3
.45	4.50	22.2	18.9	17.8	16.7	15.5	14.4
.47	4.75	21.1	17.9	16.9	15.8	14.8	13.7
.50	5.00	20.0	17.0	16.0	15.0	14.0	13.0
.52	5.25	19.0	16.2	15.2	14.3	13.3	12.4
.54	5.50	18.2	15.5	14.6	13.7	12.7	11.8
.57	5.75	17.4	14.8	13.9	13.1	12.2	11.3
.60	6.00	16.7	14.2	13.4	12.5	11.7	10.9

Mixed Gas at 800 Btu per Cubic Foot

(125 cubic feet per therm)

Price per M Cu. Ft.	Price per Therm	Therms Bought for $1.00	THERMS UTILIZED PER DOLLAR At Various Equipment Efficiencies 85%	80%	75%	70%	65%
$ .40	5.00¢	20.0	17.0	16.0	15.0	14.0	13.0
.42	5.25	18.9	16.1	15.1	14.2	13.2	12.3
.44	5.50	18.0	15.3	14.4	13.5	12.6	11.7
.46	5.75	17.3	14.7	13.9	13.0	12.1	11.3
.48	6.00	16.6	14.1	13.3	12.5	11.6	10.8
.50	6.25	16.0	13.6	12.8	12.0	11.2	10.4
.52	6.50	15.3	13.0	12.2	11.5	10.7	10.0
.54	6.75	14.8	12.6	11.8	11.1	10.4	9.6
.56	7.00	14.2	12.1	11.4	10.7	9.9	9.2
.58	7.25	13.7	11.7	11.0	10.3	9.6	8.9
.60	7.50	13.3	11.3	10.6	10.0	9.3	8.7
.62	7.75	12.9	11.0	10.3	9.7	9.0	8.4
.64	8.00	12.5	10.6	10.0	9.4	8.8	8.1
.66	8.25	12.1	10.3	9.7	9.1	8.5	7.9
.68	8.50	11.7	10.0	9.4	8.8	8.2	7.6
.70	8.75	11.4	9.7	9.1	8.6	8.0	7.4
.72	9.00	11.1	9.4	8.9	8.3	7.8	7.2
.74	9.25	10.8	9.2	8.6	8.1	7.6	7.0
.76	9.50	10.5	8.9	8.4	7.9	7.4	6.8
.78	9.75	10.2	8.7	8.2	7.7	7.2	6.6
.80	10.00	10.0	8.5	8.0	7.5	7.0	6.5

Manufactured Gas at 525 Btu per Cubic Foot

(190 cubic feet per therm)

Price per M Cu. Ft.	Price per Therm	Therms Bought for $1.00	THERMS UTILIZED PER DOLLAR At Various Equipment Efficiencies 85%	80%	75%	70%	65%
$ .37	7.00¢	14.3	12.2	11.4	10.7	10.0	9.3
.38	7.25	13.8	11.7	11.0	10.4	9.7	9.0
.40	7.50	13.3	11.3	10.6	10.0	9.3	8.7
.41	7.75	12.9	11.0	10.3	9.7	9.0	8.4
.42	8.00	12.5	10.6	10.0	9.4	8.8	8.1
.43	8.25	12.1	10.3	9.7	9.1	8.5	7.9
.45	8.50	11.8	10.0	9.4	8.9	8.3	7.7
.47	8.75	11.4	9.5	9.1	8.6	8.0	7.4
.48	9.00	11.1	9.4	8.9	8.3	7.8	7.2
.49	9.25	10.8	9.2	8.6	8.1	7.6	7.0
.50	9.50	10.5	8.9	8.4	7.9	7.4	6.8
.52	9.75	10.3	8.8	8.2	7.7	7.2	6.7
.53	10.00	10.0	8.5	8.0	7.5	7.0	6.5
.54	10.25	9.8	8.3	7.8	7.4	6.9	6.4
.55	10.50	9.5	8.1	7.6	7.1	6.7	6.2
.56	10.75	9.3	7.9	7.4	7.0	6.5	6.1
.58	11.00	9.1	7.7	7.3	6.8	6.4	6.0
.59	11.25	8.9	7.6	7.1	6.7	6.2	5.8
.60	11.50	8.7	7.4	7.0	6.5	6.1	5.7
.62	11.75	8.5	7.2	6.8	6.4	6.0	5.5
.63	12.00	8.3	7.1	6.6	6.2	5.8	5.4

Only those tables which show the per gallon, per cubic foot or per ton BTU value of fuels available and competitive locally, will be of interest at any given point.

As oil everywhere runs fairly consist-

ently at about 140,000 BTU per gallon, only one oil table is provided which is representative of the average No. 2 or No. 3 domestic heating oil. Whereas the formerly available No. 3 oil ran higher in BTU value per gallon than did the formerly available No. 2 oil, catalytic cracking today accounts for a higher BTU value per gallon in the presently available No. 2 grade; hence the 140,000 BTU per gallon assigned to domestic heating oil values in the oil table. Unit costs for oil are clearly discernible and not cluttered up with "stepped up" or "starting" charges.

However, with both coal and gas particularly, more indicative and more accurate unit costs per thousand cubic feet or per ton will be found by an analysis of all special local charges which apply to coal and gas in addition to the commonly stated unit prices. Actual tons or cubic feet obtained for actual costs, as shown by bills for past heating, will show the actual average unit costs of these fuels for home heating.

Such actual average costs should be used in referring to the tables for the figure showing number of therms which can be bought for $1.00.

Coal at 12,000 Btu per Pound

Price per Ton	Therms Bought for $1.00	Therms Utilized per Dollar — At Various Equipment Efficiencies 75%	70%	65%	60%	55%	50%
$6.50	36.9	27.7	25.8	24.0	22.1	20.3	18.5
6.75	35.4	26.6	24.8	23.0	21.2	19.5	17.7
7.00	34.2	25.7	23.9	22.2	20.5	18.8	17.1
7.25	33.0	24.8	23.1	21.5	19.8	18.2	16.5
7.50	31.8	23.9	22.3	20.7	19.1	17.5	15.9
7.75	30.9	23.2	21.6	20.1	18.5	17.0	15.5
8.00	30.0	22.5	21.0	19.5	18.0	16.5	15.0
8.25	29.1	21.8	20.3	18.9	17.5	16.0	14.6
8.50	28.2	21.2	19.7	18.3	16.9	15.5	14.1
8.75	27.3	20.5	19.1	17.8	16.4	15.0	13.7
9.00	26.7	20.0	18.7	17.4	16.0	14.7	13.4
9.25	25.8	19.4	18.1	16.8	15.5	14.2	12.9
9.50	25.2	18.9	17.6	16.4	15.1	13.9	12.6
9.75	24.6	18.5	17.2	16.0	14.8	13.5	12.3
10.00	24.0	18.0	16.8	15.6	14.4	13.2	12.0
10.25	23.4	17.6	16.4	15.2	14.0	12.9	11.7
10.50	22.8	17.1	16.0	14.8	13.7	12.5	11.4
10.75	22.2	16.7	15.5	14.4	13.3	12.2	11.1
11.00	21.9	16.4	15.3	14.2	13.1	12.1	11.0

Coal at 13,000 Btu per Pound

Price per Ton	Therms Bought for $1.00	Therms Utilized per Dollar — At Various Equipment Efficiencies 75%	70%	65%	60%	55%	50%
$7.00	36.9	27.7	25.9	24.0	22.1	20.3	18.5
7.25	35.8	26.9	25.1	23.3	21.5	19.7	17.9
7.50	34.6	26.0	24.2	22.5	20.8	19.0	17.3
7.75	33.5	25.1	23.5	21.8	20.1	18.4	16.6
8.00	32.6	24.5	22.8	21.2	19.6	17.9	16.3
8.25	31.5	23.7	22.1	20.5	18.9	17.3	15.8
8.50	30.3	22.8	21.2	19.7	18.2	16.7	15.2
8.75	29.7	22.3	20.8	19.3	17.8	16.3	14.9
9.00	28.9	21.7	20.2	18.8	17.3	15.9	14.5
9.25	28.0	21.0	19.6	18.2	16.8	15.4	14.0
9.50	27.4	20.6	19.2	17.8	16.4	15.1	13.7
9.75	26.5	19.9	18.6	17.2	15.9	14.6	13.3
10.00	26.0	19.5	18.2	16.9	15.6	14.3	13.0
10.25	25.4	19.1	17.8	16.5	15.2	14.0	12.7
10.50	24.8	18.6	17.4	16.1	14.9	13.6	12.4
10.75	24.2	18.2	17.0	15.7	14.5	13.3	12.1
11.00	23.6	17.7	16.5	15.3	14.2	13.0	11.8
11.25	23.1	17.3	16.2	15.0	13.9	12.7	11.6
11.50	22.5	16.9	15.8	14.6	13.5	12.4	11.3

Coal at 14,000 Btu per Pound

Price per Ton	Therms Bought for $1.00	Therms Utilized per Dollar — At Various Equipment Efficiencies 75%	70%	65%	60%	55%	50%
$7.00	40.0	30.0	28.0	26.0	24.0	22.0	20.0
7.25	38.6	29.0	27.0	25.1	23.2	21.2	19.3
7.50	37.2	28.0	26.0	24.2	22.3	20.5	18.6
7.75	36.2	27.1	25.3	23.6	21.7	19.9	18.1
8.00	35.0	26.3	25.0	22.8	21.0	19.3	17.5
8.25	33.8	25.4	23.7	22.0	20.3	18.6	16.9
8.50	32.7	24.6	22.9	21.3	19.6	18.0	16.4
8.75	31.9	24.0	22.3	20.7	19.1	17.6	16.0
9.00	31.0	23.3	21.7	20.2	18.6	17.1	15.5
9.25	30.2	22.7	21.1	19.6	18.0	16.6	15.1
9.50	29.4	22.1	20.6	19.1	17.6	16.2	14.7
9.75	28.5	21.4	20.0	18.5	17.1	15.7	14.3
10.00	28.0	21.0	19.6	18.2	16.8	15.4	14.0
10.25	27.4	20.6	19.2	17.8	16.4	15.1	13.7
10.50	26.6	20.0	18.6	17.3	16.0	14.6	13.3
10.75	26.0	19.5	18.2	16.9	15.6	14.3	13.0
11.00	25.4	19.1	17.8	16.5	15.2	14.0	12.7
11.25	24.6	18.4	17.2	16.0	14.8	13.5	12.3
11.50	24.3	18.2	17.0	15.8	14.6	13.4	12.2
11.75	23.8	17.9	16.7	15.5	14.3	13.1	11.9
12.00	23.0	17.3	16.1	15.0	13.8	12.7	11.5

WPB Eases Restrictions On Buying Motors

MANUFACTURERS OF COMMERCIAL type motors are being given more time to plan their schedules under a revision of L-341 which allows motor users to purchase for two quarters instead of for only one quarter. This, it is believed, will allow the motor manufacturers to plan their production better, and place orders for component parts far enough in advance to get delivery dates that will allow them to meet shipment schedules. Some components must be ordered by motor manufacturers weeks or months ahead of the calendar quarter in which the motors are assembled.

Under the revised order, applications for authorizations will continue to be filed on a quarterly basis, but will be filed about two and a half months ahead of the first of the two quarters to which authorizations will apply, instead of 30 days or more ahead of the quarter as was formerly the case. Applications must be made on Form WPB-3825 on or before the tenth of April, the tenth of July and quarterly thereafter.

Control over distribution of motors will be retained since advance authorizations will be subject to reduction of other modification whenever such action is warranted. Users who order more than 450 fractional horsepower motors in any quarter, even though they are not all ordered from the same manufacturer, must file a certificate that his order is in compliance with L-341.

Service with Wartime Fueloil

Burner Problems Caused by Heavier Heating Oil

by
J. W. Schulz

SOMETHING HAS BEEN HAPPENING to domestic fueloil since the war started. Recently erected catalytic cracking units are giving large-scale production of new types of gasolines and other petroleum products. Refinery patterns have changed. Heavier fueloils, more difficult to burn well, are being delivered to thousands of homes. Many burners are giving trouble using the heavier oil which is delivered as No. 2—and others can't use it at all.

The many "cat crackers" erected since the war began are able to do the tricks the refiners looked forward to for years. From a given amount of crude oil, they can produce previously unheard-of amounts of high octane aviation gasoline. As matters have actually worked out, the use of these catalytic cracking plants is leading to the distribution of considerably heavier domestic fueloil. The catalytic cracking plants were needed to produce aviation gasoline, and were erected for this; the by-product of their operation, arrived at by accident and not by design, is that the fueloil being distributed for house heating has been getting heavier.

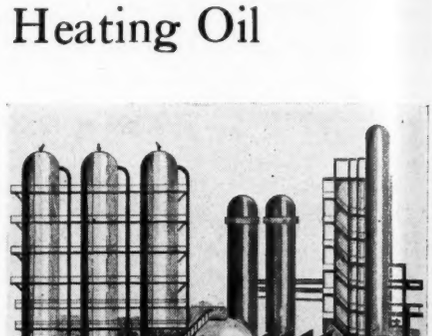
Changes Gradual

At first, oil heating men noticed that certain shipments of fueloil were of darker color. Perhaps the gravity was somewhat lower than that of prewar No. 2 oil. Perhaps the new shipments provided "No. 2 oil" with a disagreeable odor and a greater tendency to clog oil burner strainers and plug small atomizing nozzles. Oil heating men not informed on what was going on at the refineries thought that these were symptoms of a slight reduction in the quality of heating oil, caused by the wartime inability of refiners and distributors to exercise their peacetime close control over the quality of domestic fueloils. This diagnosis was incorrect, except that heavier domestic fueloil was leaving the refineries because the "cat crackers" were being swung into action. This heavier domestic fueloil often found its way into oil burner owners' tanks only after it had been thinned by the addition of lighter products which were more suitable for domestic burners. Without thinning of the new type of heavier domestic fueloil, thousands of outbursts from burner owners would have resulted from suddenly introducing it in certain areas, as a substitute for the prewar No. 2 oil. In effect the refiners were taking the curse off the first large shipments of the heavier domestic fuel by thinning it with kerosene or No. 1 oil. Throughout the past heating season, certain cities have witnessed the effects of less and less of such thinning or blending. The "No. 2 oil" sold in these cities has been getting heavier and heavier, and darker and darker. Burners which performed dependably before, started stretches of chronic trouble. Because of the increasingly short supply of kerosene, the present outlook is that there will be less thinning or blending during the months to come. The already-heavy oil being sold in some cities as No. 2 may get heavier.

"Just how heavy and hard to burn is the heaviest domestic fueloil being distributed right now?", certain oil heating men are asking, fearful that they have not seen the worst but may encounter it in the next fueloil shipment to their localities.

The best answer to this probably lies in comparing prewar No. 2 fueloil with the heaviest domestic fueloil delivered recently to considerable numbers of burner owners.

The prewar high-quality No. 2 oil offered by many large oil companies was straw-colored and transparent at best, whereas the heaviest domestic oil encountered today may be dark brown to black, and practically opaque. Mix one quart of real No. 5 oil with about three quarts of kerosene to arrive at a good idea of what some of the new heating oil looks like. The old No. 2 oil was free from disagreeable odor for all practical purposes, whereas many samples of the new oil are of objectionable odor, to put it mildly. In line with this, the prewar No. 2 was chemically stable, whereas the new oil may not be. The new oil is accused, seemingly with justification in at least a few instances, of attacking copper parts of oil burners, causing rapid wear of nozzles, and eating away copper suction lines.



Recently erected catalytic cracking units give large-scale production of new types of gasolines and other petroleum products

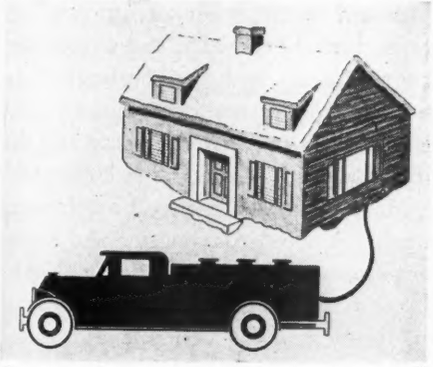
The new oil is of decidedly heavier gravity, in the range of 28 to 30 or 32 API, compared to about 35 gravity for typical prewar No. 2 fueloil. This causes us to suggest that oil heating experts interested in the problem arm themselves with hydrometers to obtain a few facts in the field regarding which type oil they are encountering. The new oil has lower boiling points for its gravity than prewar fueloils. To judge from field samples, its viscosity is comparable to that of the old domestic fueloils or higher by insignificant amounts. Some samples (seemingly rare) have been found to have uncommonly high viscosity, however, in the neighborhood of 45 to 50 seconds compared to about 35 seconds for the domestic fueloil generally delivered in the past.

Dirt, sediment, and substances which tend to form sludge and gum in strainers appear to run relatively high in the new oil.

All-in-all, the new domestic fueloils, not at their worst as we find them on actual burner installations but in general, are fit for most domestic burners, after the burners have been adjusted for them. Certain types of burners can't use these

oils, true enough, but these types are in the minority or always have used lighter than what was sold in prewar days as No. 2. The new oil is more difficult to burn clean—difficult to burn at high CO_2, economically, and without the formation of objectionable amounts of soot in the flues of the boiler or furnace. Yet, where burner owners will spend money enough for this, most gun type burners can be improved and tuned for higher efficiencies, using the new oil, than they ever attained when in poorer condition and burning prewar No. 2 oil.

"As yet there does not seem to be a government regulation that forbids me to recommend that a burner owner shift to kerosene or No. 1 when the present No. 2 oil will not burn properly in his equipment," observes one patient heating contractor. He goes on to ask about which burners probably can be shifted to the new heavier oil with success, and which



....heavier fueloils, more difficult to burn well, are being delivered to thousands of homes

burners should be given "kerosene or No. 1 oil" at once, without wasting time in a probably futile attempt to adapt them to the heavier "No. 2 oil."

The following recommendations deal with domestic burners according to types. Of course, there are the exceptional makes and models which, for their type, have uncommonly good ability to digest fueloils. Always cropping up, in addition, are the exceptional installations that do the impossible or nearly-impossible. We hear, for instance, of the owner of the vaporizing pot type burner who is getting along nicely "though he orders No. 4 oil every time"; of the pressure burner which simply eats up No. 6 fueloil though it has no oil heaters of any kind and its 3/8" suction line always is covered with ice, and of the kitchen stove burner which performs better on crankcase oil, road oil, or roof paint than it does on kerosene. Ruling out these exceptional burners in all categories, a few fundamental rules can be followed to decide whether a domestic burner should be switched to lighter oil, or adapted to the "No. 2 oil," of approximately 28 to 32 gravity, which may be encountered today. We'll have to rule out also the matter of government regulations as to which burner should use which oil, which was mentioned by the patient heating contractor who first brought up the question, because here we are dealing only of the technical aspects of which oil can possibly be burned in which burner. In the following recommendations, the burners are covered by types.

1. *Vaporizing pot type burners*—It's not advisable to try to use the new 28-32 gravity oil in any vaporizing type burner, whether the burner is of the forced draft or natural draft type. Have the burner use a lighter oil. This applies to conversion burners as well as burners which are integral parts of furnaces or boilers; it applies regardless of the type of ignition or of high-low or oil pilot operation; and it applies, incidentally, to all types of vaporizing burners, not only to the pot type vaporizing burners.

In bygone years, the majority of vaporizing burners in certain cities always used No. 1 oil or kerosene, while a few could do well on especially high quality No. 2 oil. There are exceptional makes and models among the vaporizing burners; check with the manufacturer of the model you have in mind if you believe it may be an exception that can use 28-32 gravity fueloil.

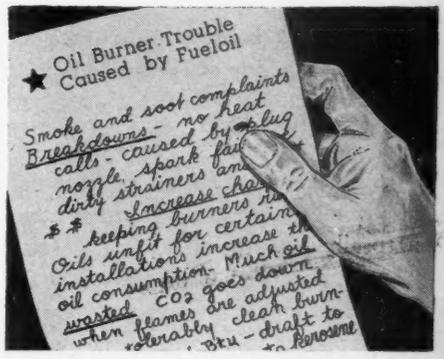
2. *Wall flame rotary burners*—(Make certain not to confuse these with atomizing vertical rotary burners, covered in the next item. The well-known wall flame rotary burners are labelled Fluid Heat, Timken, and Toridheet. The well known atomizing vertical rotary burners, which give bright yellow flames or red flames, include those labelled ABC, Hardinge, Hayward, Super, and United States.)

Wall flame rotary burners which give troubles related to ignition failure, oil odors, or combustion, when attempts are made to use the 28-32 gravity fueloil, should be switched to lighter oil, as past experience indicates that a well prepared No. 2 oil is best for them. Heavier oil invites the troubles mentioned above. Again, if you have doubts about whether or not a particular wall flame burner can be tuned for the heavier oil, obtain advice from the manufacturer of the burner. Send the manufacturer a sample of the oil in question.

3. *Atomizing vertical rotary burners*—The well known models of this type have reserve atomizing ability that should permit them to burn the 28-32 oil nicely. Don't switch them to lighter oil without first making strenuous efforts to have them operate well on the new, heavier domestic fueloil. Double-check the ignition system to make certain it will not fail with the new oil. Consider equipping the burner with an additional oil strainer or filter, if the installed filters are adequate for only prewar No. 2. Certain models will show increased tendencies to form carbon on the parts which handle and atomize the oil; this calls for additional service attention to keep these parts clean and prevent the atomization from becoming coarse.

4. *Horizontal rotary cup burners*—All burners of this type, which formerly used prewar No. 2 oil or slightly heavier oil, should perform dependably and at high efficiencies on the new 28-32 oil. If the firebox and the installation in general are capable of efficient combustion using lighter oil, there should be no complications to tuning the burner in short time for the wartime domestic fueloil.

5. *Low pressure gun type burners*—For years the friends of this type burner have boasted of its ability to burn well fueloils which are heavier by a good margin than the prewar No. 2 oil. This ability serves well now in permitting even the smallest models to do well at handling 28-



.....many burners give trouble using the new heavier fueloil - others can't use it at all

32 oil. Check the installations carefully to make certain that new fireboxes are not needed to provide high combustion efficiencies, for firebox shortcomings will bring greater penalties when the heavier oil is used.

6. *Pressure burners, or high pressure gun type burners*—Installations which up to now have been fitted with the low capacity nozzles that give the smallest fires practical for this type of burner (fires sizes of about .7 or 1.0 gph to 1.2 gph) may have to be fitted with higher capacity nozzles or switched to lighter oil, for the 28-32 oil shows decidedly increased tendencies to plug smallest nozzles. For burners firing harder than about 1.2 gph, check on these points:

a. Is a new nozzle needed to improve the atomization so that the new oil can be burned at good efficiencies?

b. Is an increase in atomizing pressure needed to arrive at efficient burning?

c. Should a new firebox be installed of special material and design to give tolerably clean and complete combustion with this oil which is more difficult to burn at good efficiencies?

d. Should air leaks in the boiler or furnace be located and sealed to increase combustion efficiency and eliminate tendencies of the flame to spread oil odors?

e. Is a filter needed to prevent frequent plugging of the nozzle by the poorer quality oil?

f. Should the firebox draft be set higher?

g. If there are troubles related to poor combustion, formation of soot, and waste of oil because of low combustion efficiencies, can the controls be adjusted to make the oil burner "on" periods longer?

h. Are adjustments needed for the air-handling parts at the nozzle end of the gun tube, or are improved air-handling parts needed to improve combustion by giving better mixing of the oil and air in the firebox?

* * *

The 28-32 gravity fueloil, which today is displacing the prewar high quality No. 2, naturally is not the oil heating fuel that would be produced if oil heat enthusiasts had anything to say about the matter. Because it is unfit for many burners which formerly ran well on good No. 2 oil, the new oil is causing thousands of installations to be shifted to kerosene and lighter oil. In addition, it is increasing the oil consumption of many installations which can not burn it at their old high efficiencies—particularly the installations shifted to it without benefit of tune-up for this oil, the installations which simply can not use it efficiently, and those which should be modernized or renovated to permit using it at acceptable efficiencies but which actually are not altered. Then, too, valuable man-hours of the scarce, skilled burner service man are being wasted to handle the breakdown and combustion difficulties caused by the use of the heavier domestic oil. The standards of oil heating are being impaired, as many of the large oil refiners realize. For years, these refiners have made tests and distributed information regarding the importance of using the best in fueloils to arrive at the best, most economical oil heating.

The situation was born of wartime necessity, however, and in all probability will end, at least temporarily, at the end of the war. True, the "cat crackers" will continue operation; there's not a doubt about that, but when competitive fuel situations are faced by the large refiners and they once more have the say over their refining patterns, it's a safe bet that they will want to offer once more domestic fueloils engineered to give the best possible results in modern burners.

Private Building in 1944 Was Seven Percent Above '43

THE VALUE OF NON-FEDERAL building construction started in urban areas of the United States during the calendar year 1944 was 7 percent above 1943. Federal building dropped 43 percent, however, causing the value of all building started to decrease from 1.3 to 1.1 billion dollars.

The increase by nearly one-third in the value of additions, alterations, and repairs in 1944 was more than offset by a net decline of about 42 and 7 percent respectively in new residential and new nonresidential values. Additions, alterations, and repairs rose on both Federally and non-Federally financed projects and new residential work decreased on both types. In the case of new nonresidential building, however, the 27 percent decrease in Federal work was in contrast to a 60-percent increase on other projects.

Two New U. of I. Booklets on Heating & Solar Effects

ADVANTAGES, DISADVANTAGES, problems, and operation of air, water, and steam home heating systems are explained in a non-technical 12-page circular issued by the Small Homes Council of the University of Illinois. A second free circular discusses "Solar Orientation in Home Design."

The heating circular has diagrams and discussions about seven systems: gravity warm-air, forced warm-air, gravity hot-water, forced hot-water, one-pipe steam, two-pipe steam, and panel heating. Many facts are from years of tests in the Warm Air Heating Research Residence and the I-B-R Research Home at the University.

Among subjects discussed are heating equipment standards, register and radiator placement and types, radiator shields, effect of reducing temperatures at night, and provisions for domestic hot water from the heating plant.

"Solar orientation" is taking advantage of the sun by facing as many rooms as possible to the south and opening them to the benefits of additional warmth, daylight, and year-around living enjoyment, the circular explains. Large window areas are stressed to utilize low-slanted sun rays in winter, with overhanging eaves to screen out high-angled summer rays.

Single copies of the circulars are free to anyone writing to the Small Homes Council at the University of Illinois.

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Building Construction in All Urban Areas

12 Months of 1943 and 1944

Class of construction	TOTAL 1944* (In thousands of dollars)	TOTAL 1943 (In thousands of dollars)	TOTAL Percentage change	FEDERAL 1944* (In thousands of dollars)	FEDERAL 1943 (In thousands of dollars)	FEDERAL Percentage change
All construction	1,086,203	1,289,176	—15.7	331,577	585,486	—43.4
New residential	342,239	586,531	—41.7	54,047	211,363	—74.4
New nonresidential	430,227	463,458	— 7.2	259,291	356,805	—27.3
Additions, alterations and repairs	313,737	239,187	+31.2	18,239	17,318	+ 5.3

*Preliminary. Subject to revision upon receipt of late reports for December 1944.

Preventive Service

How Servicemen Each Care for 1250 Customers

by

A. E. Coburn

HOW DO YOU PROVIDE satisfactory oilburner service to 10,000 customers with eight servicemen? When you put that natural question to Don Edwards of General Heat & Appliance Co., Boston, you get an unexpected answer. "Dam'fino," says Mr. Edwards. "We just keep 'em clean and cross our fingers."

Lou Gardner and Don Edwards operate one of the more successful oilheating businesses in New England, but they have not been immune to the rigors of wartime rationing, lack of sales, shortage of manpower, and the other hazards which oilheating men know so well. The more business you used to have, the harder it is to adjust to present conditions, though your responsibility to customers never shrinks. The change-over to current conditions, of course, has been slow enough so it could be handled on a day-to-day basis, but there has been hardly a day that did not present a major problem that had to be met and defeated.

The company is a distributor for Delco oilheating equipment, distributes fueloil in the Boston metropolitan area, operates its own heating and sheet metal shop, and has developed a thriving insulation, roofing and siding business which will be continued as a permanent part of the company's operations. But as with most other oilheating firms, new sales have become less important than the maintenance of service to present customers. It is this service to thousands of oilburner and fueloil users that is claiming a major part of officials' attention today.

The details of the General Heat & Appliance story start to unfold after a few minutes with L. J. (Jim) DeWolfe, service manager. He used to have sixteen servicemen, each one responsible for a definite pie-shaped territory which pointed to the Boylston Street headquarters in Boston. This sprawling territory covers a radius of twenty miles from the showroom and is cut by numerous rivers and other natural barriers which complicate travel. Though the territory has not changed in the last three years, the number of servicemen in 1944 was only half that of 1941, making an average of 1,250 customers per man against a New England average of 455, and a national average of 438.

Keeps Calls per Burner Low

To give satisfactory service to so many customers per man requires complete organization and careful scheduling. How complete and how careful is revealed partially in the company's record of calls. General Heat makes slightly less than one call per burner per year, against a New England average of 1.5 calls, and a national average last year of 1.7 calls per customer. It is obvious that when a serviceman averages nearly a hundred calls per month, no pronounced peaks can be handled. It becomes necessary to spread the calls as evenly as possible over the entire year and avoid any definite "rush" period. Furthermore, every call must not only correct present trouble, but go as far as possible to avoid future trouble.

"That is the basis of our whole service operation," Mr. Edwards explains. "We spend what might be our slack periods looking for the trouble that might otherwise come looking for us as emergency service. We simply can't afford to wait for 'no heat' calls, because those always arrive on a definite cycle, peaking up in the first cold week in the fall. It would be impossible for us to handle any such peak as we might get if we waited for the calls to come in. We string along with the theory that a little prevention is better than a lot of cure."

The start of the first phase of General Heat's preventive service falls about the first of May each year when all customers are urged by mail to buy a summer cleanup for $9.75. The letter and the return card sell the need as strongly as possible. The work is outlined: There is to be a thorough vacuum cleaning of the boiler or furnace, a cleaning and oiling of the burner, a complete check of all controls, a new nozzle of the proper size and spray angle, and an adjustment of the burner with instruments. No detail will be overlooked, and the burner will not only be ready to operate, but operate with the least possible drag on the fueloil ration.

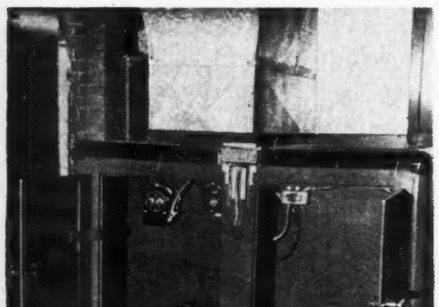
"We get about 2500 summer cleanups each year," Mr. DeWolfe says, "and these are each handled in two calls. In these days that is important, since you can't always get the kind of men you need for a complete one-call job. The first half of the cleanup is the dirty work which requires very little skill. Any man can be taught in a little time to do a good vacuum cleaning job on the boiler, clean the smoke-pipe and clean and oil the burner and draft regulator. This is slow work and a man can't average much more than four a day if he is thorough. Later, the same man if he is competent, or a more experienced man if necessary, goes back and checks the operation of the burner and all controls, checks draft and pump pressure, installs a new nozzle and sets the burner for the best CO_2 reading that is safe. These second half calls can be made at the rate of eight or ten a day. Most of them are in the same neighborhood, and the man is routed to save his time. After a cleanup we are reasonably sure that the burner will operate well, that there are no weak spots that are likely to cause trouble, and that the customer will be getting the best possible service from his installation.

Service agreements *allow inspections that head off "no-heat" calls.*

"We sell service agreements, too," Mr. DeWolfe continues. "We sell about 2,000 of these each year at $12 to $15, depending on whether or not we supply the customer with oil. These service agreements

cover labor only; all necessary parts are extra. Besides emergency service, the agreement entitles the customer to two checkups each year.

"Unlike the summer cleanups, service agreements are not sold at any particular time of year. We are constantly trying to sell agreements and renew those that expire. This is because the two checkups are divided roughly to fall at the middle and the end of the contract year, based on normal degree days. In this way we avoid peaks in the demand for inspections as they fall due, and can spread these calls through the contract year and route them



Every installation *possible is put in first-class operating condition before the heating season starts.*

for greatest convenience and economy. For this reason we would rather sell a service agreement during the heating season than during the summer."

Officials explain that though few new burners have been sold during the last three years, and therefore there has been almost no warranty service, this has been about balanced by the increase in service due to wartime conditions. A dry tank, for instance, not only requires a call to prime the pump, but stirs up and pulls into the line all the sludge and water that may be at the bottom of the tank. Changes in oil gravity require changes in burner adjustment and sometimes additional cleaning. It is estimated that these new causes of service about off-set the decrease in calls due to fewer installations being under the guarantee. Reconversions made by the company do carry a warranty, and it is expected that these will increase before new sales are again permitted.

One factor that is credited with holding emergency service to a minimum is the outstanding job the company has done in equipping 80% of its customers' installations with oil filters. These are fabric type filters with replaceable elements, and the filter element is replaced every time a service man visits an installation. This automatic replacement of the filter cartridge prevents the calls that otherwise might arise from excessively dirty or plugged filters, and it also keeps lines and oil-handling burner parts free from wax, sludge and other foreign matter, since all filters are installed at the tank.

The company started in 1937 to include a filter at the tank on each new installation, and to sell filters to service customers. Servicemen were encouraged to sell filters by allowing a commission on the $7 sale. In 1941 the new Massachusetts code became effective, under which a filter at the tank is required on each new installation. This served as a spur to filter sales on old jobs, until today General Heat and Appliance has filters on 80% of the installations it services.

Three Essentials

"Three things are required of a service man every time he visits a burner," Mr. DeWolfe explains. "He must change the filter cartridge. He must check the draft setting to be sure it is right for the job, and he must check the pump pressure to be sure it will deliver oil. In the process of performing these three functions, a serviceman will uncover weak spots that may cause future trouble as well as be sure of the two essentials to an operating burner —air and oil supply.

"Servicemen are required to keep their pressure gauges in calibration. They must bring them in for a check against a master gauge at least once a month."

It is obvious that General Heat's servicemen have little time to spend around the showroom. They live in the field, working in a specific territory, and check by telephone with headquarters after each job is finished. In this way it is possible to route them to the nearest job, or to send the nearest man to an emergency call.

How effective the system is in producing satisfactory service is seen in the record of "repeat" calls. In 1943, when the organization still was shrinking and the demand was high, the men hung up a record of only 5.5% repeat calls. In 1944, with the service staff at an all-time low, the system produced only 3.8% repeats. This may account in part for the ability of the men each to handle an average of more than 1200 service customers.

"That's it," says Don Edwards. "We just keep 'em clean and try to lick the trouble before it arises."

Wisconsin Fights Revision Of Natural Gas Law

MEMBERS OF THE OILHEATING industry in Wisconsin currently are attacking proposals in the State Legislature to ease the rules governing the importation of natural gas into the state. The fight had not been brought to a conclusion at the time this went to press. A hearing was held before the Assembly Judiciary Committee March 22 at which testimony was heard on natural gas reserves, but the committee has not released its decision.

Wisconsin Oil-Heat Association, Milwaukee, has been active in opposing the proposed changes. In a letter to State Senators and Assemblymen, Harold M. Mottram, executive secretary of the Association, summed up the status of natural gas in the state:

"In 1943 the Legislature enacted Chapter 48, known as the Home Rule Bill, and Chapter 339, Tax Bill on Natural Gas.

"These laws do not preclude natural gas from coming into Wisconsin, but they do permit communities to decide the issue for themselves, and if their decision is in favor of natural gas, then the tax law will regulate and return to the State and local units of government a fair compensation for the revenue they would otherwise lose in taxes through the loss of revenue which competitors of natural gas will suffer.

"It is conservatively estimated that unless this tax law remains in force, natural gas will cause a loss of revenue to State, Counties and Municipalities of about $3,500,000 per year."

The present opposition is to Bills 208-A and 209-A which would repeal the provisions of the Home Rule and the Tax Laws and allow natural gas a free and untaxed passage into the State. It is understood that the larger municipalities are opposed to the repeal and the loss of revenue it would entail.

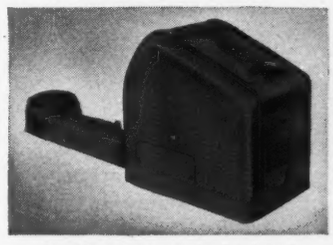
rvice Engineers Are on the Job!

In the field, where on-the-spot advice in solving service problems is often urgent, our factory service specialists are on the job, during war or peace, supplying our extensive dealer organization with engineering and service helps.

The Delco-Heat Service Organization is doing its level best to keep every piece of Delco-Heat equipment functioning faithfully for the duration.

Keep this Delco-Heat service record in mind when you are selecting your postwar line of heating equipment. A Delco-Heat franchise may still be available in your territory. Mail the coupon below for full details of our Delco-Heat Plan.

Delco-Heat Oil Burner



Delco-Heat Automatic Coal Stoker

Delco-Heat Boilers and Conditionairs (Oil and Gas-Fired)

GENERAL MOTORS
DELCO-HEAT

BUY U.S. WAR BONDS

Dealers who look ahead will tie up with DELCO-HEAT and will profit from a preferred list of prospects— ***the 15,000,000 satisfied users of other General Motors products.***

Mail This Coupon Today!

DELCO APPLIANCE DIVISION, Dept. FH45
General Motors Corporation, Rochester 1, N. Y.

I am interested in your Delco-Heat Plan for Dealers.

Name.....

Street.....

City.....*State*.....

fueloil & oil heat

Industry Strains Every Muscle As War Needs Continue Upward

With both the European and Pacific wars growing to unprecedented proportions, the thirst for petroleum products by the armed forces seems almost insatiable. Industry and Government men are gasping for breath and the industry's physical properties—refineries, terminals and transportation equipment—are bulging at every seam.

The oil industry in the past three years has so often proven that it can do the impossible, that the Army and Navy now simply accept that conclusion as a matter of course, and they propose something else that's impossible every few days.

When, in January, fresh demands were made for an additional 120,000 barrels a day of light products (aviation gasoline, 80-octane all-purpose gasoline and jet propulsion fuel) the quantity didn't at first look so poisonous in view of five million barrel daily crude production, but it didn't take long to discover that we don't have the refinery capacity to make it.

We do have enough raw product, for obviously more of these light fractions can be taken out of a barrel of crude, so long as we are willing to push distillate heating oils down to lower gravity. The best charging stocks for these lightest war products are the straight run distillates that used to be our principal home heating fueloil, but probably never again will be, since we are learning to use the heavier cracked material.

More refinery capacity must be built in record time. Five new plants have just been scheduled for construction, one for the Texas Co. at Lockport, Ill., two for Standard of Indiana at Whiting, Ind., and Sugar Creek, Mo., one for Leonard Refineries, Inc., Alma, Michigan, and one for Shell at Houston, Texas. The new facilities will be built entirely by private capital at a cost of $78,000,000.

To get more of the critical products before these new plants can be completed every effort is being made to squeeze in a little here, a little there—sometimes in surprisingly small quantities. The synthetic rubber program is being slowed down for six months to divert some of the components, principally cumene, to aviation gas manufacturing operations.

Closing of the Canol project in Canada as announced recently in newspapers was a step in the direction of getting more aviation fuel. Amusingly, the Army in this instance pulled a squeeze play on itself. At the time Canol was built by the Army, PAW objected strenuously on the ground that it would produce too little product to justify the effort.

Now that the Army is crying for more gasoline for war, PAW has pointed out that if Canol were abandoned and its 85 skilled refinery operators moved down here, they could produce an additional 1750 barrels a day of aviation fuel. At Canol they could turn out only 250 barrels; at a large United States refinery 2000 barrels. So the Army gave up and closed the place, throwing the men out of work. Then PAW, working through the War Manpower Commission, has offered to transport these workers and their families, without cost, to any modern American or Near Eastern refinery.

Need Over 5 Million Daily

Total demands for all petroleum products for military and civilian uses, according to Dr. Robert E. Wilson, chairman of the Economic Committee of PIWC, will be 5,261,000 barrels daily in the second quarter of this year, 5,165,000 in the third quarter and 5,451,000 in the fourth quarter of 1945. Total crude oil production in 1945 is expected to average 4,737,000 barrels daily, with additional production of 353,000 barrels daily of natural gasoline, condensate and benzol, providing a grand total of 5,090,000 barrels daily. This total compares with 4,861,000 barrels daily in 1944 and 4,365,000 barrels daily in 1943.

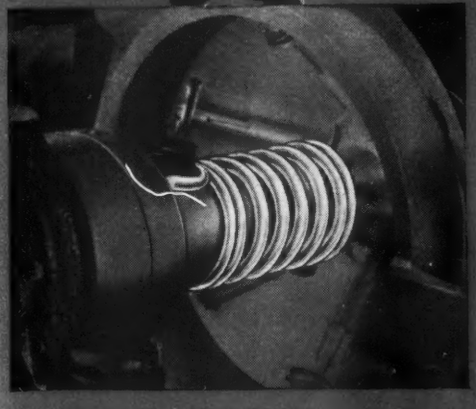
In attempting to meet this year's production goal it is necessary to operate Southwestern oil fields at some 60,000 to 75,000 barrels daily above their maximum efficient rate. This excessive pumping will to some degree injure the wells.

United Nations refineries outside of the United States and Russia (66 refineries in 22 countries) handle about 1,450,000 barrels daily, but only about 100,000 barrels daily are available for war needs. Thus, from all sources, we will have about 5,190,000 barrels daily available to meet an average demand in the balance of this year of 5,292,000 barrels. The shortage must come from present crude stocks.

Because of the increasing inroads of light war products, kerosene and distillate fueloils will be relatively tightest next heating season. There is some scant possibility that supplies will be eased if the European War ends this spring or summer. Dr. Wilson of PIWC thinks there will be improvement when that happens, but Army-Navy and PAW do not think so. They believe that the whole European demand can be promptly shifted to the Pacific. It is probably safest to assume at this stage that distillate heating oils will be tight, that transportation will be scarce and that both dealer and consumer storage must be filled to the brim as early as possible this summer.

Here's another hidden

...VALUE



Picture what would happen if you started an automobile engine while the car was in high gear. Such an action is comparable to the strain placed upon the motor of an ordinary oil burner three thousand times a year. Flex-Fuse Drive cushions this starting shock and encourages longer life for your heating system.

WE would be willing to wager that very few owners of an Air-Seel burner are aware of the many exclusive Silent Glow features which help them to heat their homes with ease and economy, and to protect them against frequent and costly service operations. One of the most important of these hidden values is the Flex-Fuse Drive. This patented feature is nothing more than a coiled steel spring, but it renders a service out of all proportion to its simple appearance. The Flex-Fuse Drive was designed by Silent Glow technical experts to provide longer life for the Air-Seel burner and it accomplishes its purpose by reducing the strain on the motor when the burner starts. In addition to absorbing this starting strain, it also serves in the capacity of a fuse. If, for any reason, the motor becomes overloaded, this little spring automatically snaps and prevents the motor from burning out.

The Flex-Fuse Drive is typical of the engineering knowledge and ability which have gone into the construction of all Silent Glow oil burners. It is but one of the reasons why thousands of home owners have selected Silent Glow in preference to all other heating units. And it explains why so many oil burner dealers place such a high value on their Silent Glow franchise in these days of labor and material shortages. They know from experience that a Silent Glow oil burner practically takes care of itself.

The SILENT GLOW
OIL BURNER CORPORATION
Hartford, Connecticut

Slogan Idea-Ideal

by

Eric S. Bergman*

WEBSTER — IN HIS FAMOUS diction directory gives the definition of a slogan as "any rallying cry." Let's rally to the aid of the industry in which we are engaged.

The first principle of salesmanship, whether you are selling an automobile, a girdle, a bicycle, or fueloil is to believe in your product. If you do, then you have a job with a very definite, sincere purpose. Capitalize it by making the public conscious of what you believe, making them conscious every possible time you can.

The value of adopting some slogan, which will be a real expression of the benefits of automatic oilheating, has been apparent to me for sometime and should be to everyone in the fueloil industry. That expression should be easily understandable and as short as possible.

The advantages of industry slogans are numerous. Every reading not only does something for you—but for the upbuilding of the industry in which you are engaged. The day of the lone wolf operator protecting only his own rights is gone. Only by cooperative group action on a basis of enlightened selfishness can we protect the interest of our own groups.

The slogan should be used by each and every Refiner, Marketer, Distributor, Division Manager, District Manager, Dealer, Salesman, Tank-Truck Salesman, Dispatcher, Telephone Operator and Office Personnel. Also, this slogan should appear on every delivery ticket, tank chart, driver's report, cash receipts, invoice, letterheads, envelopes and advertising material such as decals, banners, pencils, calendars, rulers and the many other items used by the fueloil industry.

In conversations with many fueloil dealers, they have all agreed on the advisability of a slogan but unfortunately the tall trees have obscured their view of the forest. They seem to be more concerned with injecting their own company or brand name rather than having a slogan for the industry as a whole.

During my travels the following slogan's have been mentioned:

"FOR FULLY AUTOMATIC HEATING, OIL COSTS LESS"

"REDUCE FUEL COSTS, USE OIL FOR AUTOMATIC HEATING"

"AUTOMATIC HEATING BY OIL COSTS LESS"

"HEATING AUTOMATICALLY BY OIL COSTS LESS"

"OIL COSTS LESS — FOR AUTOMATIC HOME COMFORT"

"GUARDIAN OF YOUR WINTER COMFORT"

"HEAT WITH OIL"

There must be many others and I suggest that those of you who have been giving the matter of a national slogan consideration write your ideas to FUELOIL & OIL HEAT.

You are interested in facts and conditions as they exist today and may exist tomorrow. The past is of interest only as a guide-post to the future. One of the most stimulating, encouraging experiences that I have had is to review the remarkable job that the oil industry has done in educating the public in conservation of fueloil and particularly the stress they have laid on the slogan "Oil is Ammunition—Use It Wisely." That slogan has been carried into every corner of these United States and it now is highly desirable that you, in the fueloil business settle upon a slogan along the lines of those listed for the welfare and progress of your industry.

If you recognize these facts—you must reach the conclusion that automatic heating by oil will continue to play an important part in American home life not only now but during the post war period. If the fueloil dealers are to serve the public efficiently and satisfactorily then most certainly it is time for all to get together, exchange ideas, and explore the vast areas of mutual interest. In that spirit I suggest that definite steps be taken to achieve greater publicity by the use of a slogan.

◈

R. A. Saunders, formerly district O.P.A. tire rationing official has joined Petroleum Solvents Corp., N. Y. He will be stationed in the northern California territory.

*Degree Day Systems, New York.

Census Report Revised To Show Burner Detail

MONTHLY REPORTS TO THE Bureau of the Census at Washington by manufacturers to show domestic oilburner stocks, shipments and orders will be in considerably greater detail starting with the report on January operations. The reporting form (Form M51A) has been revised to show stocks at the beginning and at the end of the month, new orders and unfilled orders, production and shipments for the various types of burners and units This is information that long has been needed but could not be gathered by the Bureau until approval had been received on a revision of the form. C. F. Curtin of Oil Heat Institute has been working with the Bureau officials, and the Engineering Committee of OHI has cooperated in determining the detail of the information to be collected.

Domestic oilburners are divided generally into two types; atomizing and vaporizing. The atomizing equipment is further divided into low pressure, high pressure and rotary burners, and the vaporizing equipment is subdivided into pot type natural draft, pot type mechanical draft, and rotary burners.

Information on orders, shipments, production and stocks of these six types of domestic burners will be gathered for conversion burners, cast iron boiler units, steel boiler units, residential water heaters, and furnace units. In each case the statistics are to cover only that equipment which is designed to be used in residential central heating, and not burners for cooking or space heating units. The so-called distillate burners are to be reported separately as soon as the service which was discontinued in 1940 can be reinstated.

A revision also has been made in the classification of commercial and industrial oilburners. These units are divided according to the method of atomization employed; low pressure, high pressure, or rotary, and also according to the method of control; manual, semi-automatic or full automatic. A new section will show the number of commercial and industrial boiler burner units under each type.

This revised and more useful report comes as a direct result of OHI work with the Bureau of the Census, after the complete oilburner report was threatened. For a time there was discussion of eliminating oilburner reports as an economy measure.

ACCURACY of CONTROL

★ is *not* affected by

Temperature Changes in Surrounding Areas

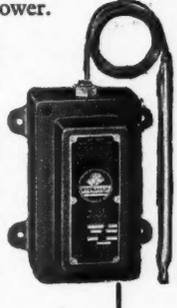
WHITE-RODGERS HYDRAULIC-ACTION REMOTE BULB CONTROLS ARE *NOT AFFECTED BY CHANGES* IN ROOM TEMPERATURE

When controls must be located under difficult conditions, the remote bulb and capillary of White-Rodgers Hydraulic-Action controls provide the answer. The fluctuating temperature of the area in which the control is located *does not affect* the operation of the control. The design of the sensitive element, together with the expansive force of Hydraulic-Action, make this possible.

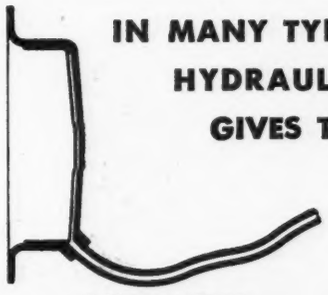
HYDRAULIC ACTION CONTROL

8 EXCLUSIVE FEATURES OF WHITE-RODGERS HYDRAULIC-ACTION TEMPERATURE CONTROLS

1. May be mounted at any angle or position, above, below or on level with control point.
2. Hydraulic-Action principle incorporating solid-liquid-filled bulb and capillary provides expansion force comparable to that of a metal bar.
3. Diaphragm motion uniform per degree of temperature change.
4. Power of solid-liquid charge permits unusually sturdy switch construction resulting in positive contact closure.
5. Heavier, longer-wearing parts are possible because of unlimited power.
6. Dials are evenly and accurately calibrated over their entire range because of straight-line expansion.
- ★ 7. Controls with remote bulb and capillary are not sensitive to change in room temperature. Accuracy of control is not affected by temperature changes in surrounding area.
8. Not affected by atmospheric pressure. Works accurately at sea level or in the stratosphere without compensation or adjustment.

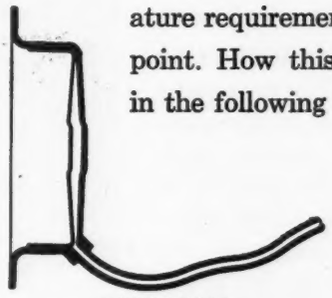


IN MANY TYPES OF APPLICATION THIS HYDRAULIC-ACTION PRINCIPLE GIVES THE ONLY SURE RESULT



CONTRACTED

Above is a cross section of the diaphragm and part of the liquid-filled capillary. In this view the liquid has contracted, releasing the pressure on the diaphragm and causing the switch contacts to function.



EXPANDED

In this cross-sectional view, the liquid charge of the capillary has expanded with a rise in temperature. The positive force of this hydraulic action forces the diaphragm outward and causes the switch contacts to function.

The remote bulb, containing the major portion of the solid-liquid charge, fully interprets the temperature requirements of the control point. How this works is shown in the following illustrations.

Actual-size illustration of the White-Rodgers diaphragm body, the actuating element of every White-Rodgers temperature control. It is so designed as to exert full pressure at the point of contact with the switch mechanism.

WHITE-RODGERS ELECTRIC CO.

1299D CASS AVENUE **ST. LOUIS 6, MISSOURI**

Controls for Refrigeration • Heating • Air-Conditioning

fuel oil e oil heat

Minor Changes Planned For 1945-46 Rationing

LIKE MOST war emergency programs that have been operating for three years, fueloil rationing seems to have arrived at a stable pattern, where few important changes are to be expected. OPA's Fuel Rationing Division, during the past six weeks, has been going through much the same routine as in former seasons, holding meetings to consider changes with its field staff, its Industry Advisory Council, its Association Panel, its technical advisory consultants and its industry consultants . . . and while numerous possible changes have been suggested, few of them were able to survive the meetings.

Among the minor changes agreed on, perhaps the most important is the decision to definitely kill all coupons of the present season August 31. In other words, unused coupons of this season will not remain valid into next season as was done last fall. Allowing hangover coupons to remain valid last season cost about two and one-half million barrels of oil, or more than the other liberalizing steps combined —such as domestic reconversions, coal spraying, etc. Any consumer who arrives at August 31 with a full tank and none of his 1945-46 coupons used has little real need for any remaining past season coupons.

At first it seemed likely that the final expiration date on coupons of the present season would be extended to September 30 to allow summer fill-ups to be made through September, but developments of recent days now make this improbable. The deadline will probably remain August 31. New demands of the armed forces make it almost mandatory that consumer tanks be filled as early in the summer as possible. The Navy has just taken over several million barrels of additional primary storage capacity on the East Coast. The remaining storage for civilian products is now so limited that it is necessary to utilize consumer storage to its fullest extent.

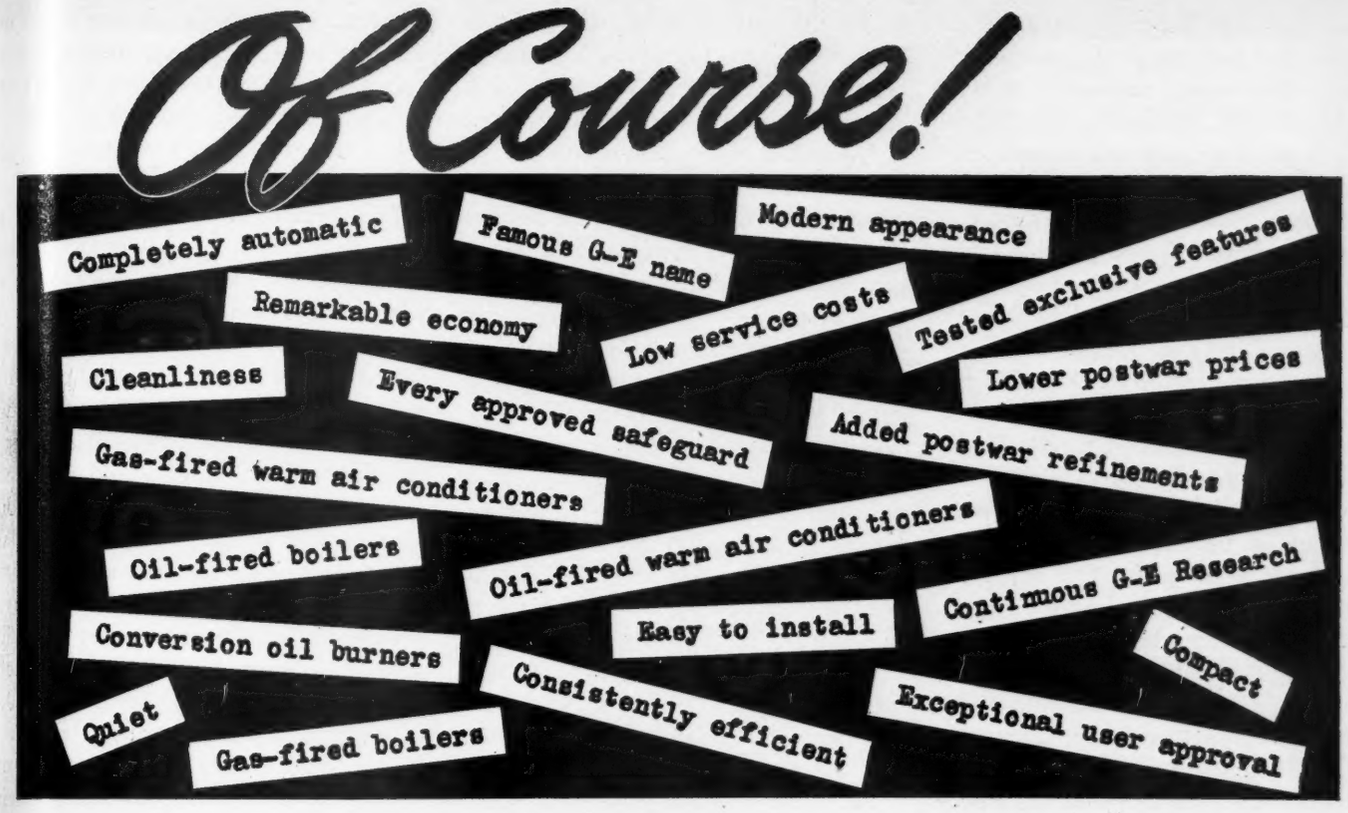
The total tank capacity of distillate consumers in the East is about 10½ million barrels. PAW feels that supply conditions next season will be worse than during the past season unless we can completely fill that consumer storage before the end of August. Last year on September 1 only about 58% of these tanks had been filled. A strong educational campaign for the industry and consumers to get early fill-ups is now in preparation. It all adds up to an August 31 deadline.

OPA is trying to get the new coupons to the boards and to consumers earlier than last year. Present plans call for getting all of the new central heating applications mailed out from the boards not later than the first week in June. Then the job will be to get consumers to send them in so coupons can be issued, always the toughest problem. Last summer one-third of coupons were mailed out from boards in June, one-third in July, a handful in August, but fully a fourth of them did not go out until September or later. With few exceptions this was the fault of consumers, not of the boards.

Another change in the program will apparently be in the 15-day credit provision on ration evidences. Ration banking consumers have been permitted to mail in their ration checks within 15 days after delivery of the oil. Failing to do this, the dealer is supposed to report the delinquency to OPA. While there have been many tardy customers, few have been reported, for obvious reasons. It is now proposed to extend the time period. On all deliveries during a month the customer will have until the 15th of the following month to get in his ration check. Following that, the dealer will have another five days to try and get the check and if unsuccessful must report the delinquency to OPA District offices by the 20th.

Central heating rations will be issued on the same basis as last year . . . the same gallonage for heating, the same hot water and children's allowances unless there has been a change of circumstances. Space heater rations will be the same, but District Directors are to have authority to raise the floor area ceilings on these, if Washington agrees that conditions warrant. On residual oil the initial ration will be the same as last season, although there is a strong chance that by early fall these users will be given additional rations to bring them up to normal requirements. PAW believes that refinery runs are being stepped up to the point that we will have a more or less permanent surplus of residual, and it must be kept moving to avoid storage choke-ups.

Considerable study has been given to a PAW request that different style coupons be issued this season for residual, distillate and kerosene, but this apparently can't be done, due to time pressure. Also it would cause a great deal of con-



These buying points for the home-owner are selling points for YOU!

FEW postwar markets look more inviting to dealers than the markets for domestic heating equipment. Be as conservative as you will... the replacement market, the market of privately-built new homes, the market in large-scale development projects, all hold prospects of record-breaking sales when production can be resumed.

And no dealers, we believe, are better placed to share this business than the fast-expanding list of G-E dealers.

Why? Just look over the "points" in the panel above!

General Electric engineers put years of research into G-E Boilers, Burners, and Warm Air Conditioners before they were offered to the public . . . then more years checking operating results under widely varying conditions in homes of many types. No prewar heating units that we know of offered more to the home-owner... yet laboratory research and painstaking test have steadily perfected further refinements, reduced fuel consumption, lowered production and installation costs.

If you hold a G-E Franchise... congratulations! We think you have a good opportunity to hit the jack-pot. If you haven't signed up . . . there may be some good spots still open; better inquire. For as one dealer told us, "when the name on it is *General Electric* . . . say, half the selling battle's over!"

General Electric Company, Domestic Heating Division, Section 5484, Bloomfield, N. J.

BUY...and hold...WAR BONDS

GENERAL ELECTRIC

Automatic Home Heating

Tune in: "The G-E HOUSE PARTY," every afternoon, Monday through Friday, 4 p. m., EWT. CBS..."The G-E ALL-GIRL ORCHESTRA," Sundays, 10 p. m., EWT, NBC... "THE WORLD TODAY" News, Monday through Friday, 6:45 p. m., E W T, CBS

fusion at boards and ration banks. Their reason for requesting it, however, is sound. They expect residual to be relatively plentiful, distillate a little tighter than in the past season and kerosene considerably tighter than it has been. They would like to be able to treat them differently and avoid diversion that occurred in the past. Some coupons issued last fall to raise residual rations proved to be more than needed and were used for home heating oil. Again, considerable kerosene was diverted to upgrading the new heavier distillates or as a substitute for distillate in some central heating plants. PAW says that this must be stopped, with the kerosene outlook tighter, yet the agency has no answer to the problem of supplying burners that need lighter distillates. In fact, they predict a higher percentage of the heavier cracked oil next season, resulting from the step-up in aviation gasoline and jet propulsion fuel production.

Class 5 coupon sheets, now on the press, will be similar to those now in use. Minor changes include placing more emphasis on the customer's signature and having two rows of Period 1 coupons, one row taking the place of the inventory coupons used in the past. This is simpler for ration banks. Class 3 coupons of the present type are to be discontinued. A new style will be issued in serially-numbered strips and in 1, 5 and 25-gallon denominations.

OPA feels that the planning stage in rationing programs is about over and that its strongest effort in future must be on administration, or getting better compliance with regulations. The industry can expect a speeding up of enforcement activity. Partly because fueloil has been regarded in Washington as the best of the rationing programs the enforcement staffs have given it much less attention than gasoline, food and the other programs. Now they discover, from the Form 1198 that dealers filed this winter, that violations are widespread and there is every indication of their getting very active. In a spot check of one Midwest city they found a fourth of the dealers owing their suppliers more ration evidences than they had storage capacity.

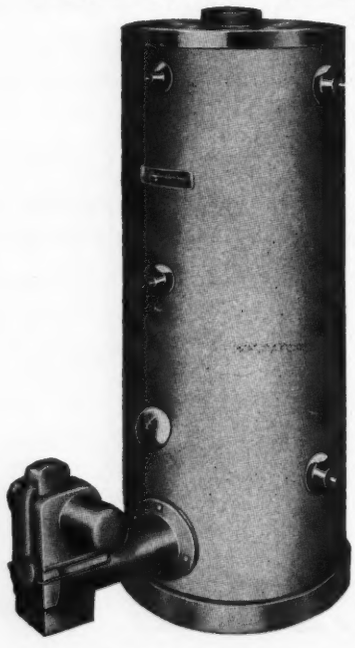
An example of the more exacting enforcement policy is the disclosure that henceforth all coupons pasted by dealers on the gummed sheets and deposited in ration bank accounts will be scrutinized for violations of regulations. Already started in some areas, every coupon paste-up sheet going into a bank is to be sent from there to newly established verification centers, where each sheet is checked and violations noted.

The verification centers are finding a strange assortment on some of the sheets, anything from old expired issues to gasoline and sugar coupons. They have particularly found much evidence of pre-tailoring, with dealers accepting coupons before they become valid and depositing them in bank accounts. Some dealers apparently knew that banks would not check many of the sheets so simply pasted on anything that would fill the spaces. Relatively few counterfeit coupons are showing up, fortunately.

Enforcement is complicated by the difficulty of avoiding discrimination between large and small dealers. There are 240,000 registered fueloil dealers, but only 20,000 of these have storage capacity of 1,000 gallons or more, including their truck capacity. The other 220,000 are stores, filling stations and the like, that sell kerosene. They are governed by the same regulations as the regular fueloil

SHEPHARD "PERCOLATING" HOT WATER HEATERS STEAM AND HOT WATER BOILERS

FAMOUS FOR STURDY CONSTRUCTION, QUICK RECOVERY, LOW COST OPERATION AND STREAMLINE BEAUTY



The Government Has Purchased Thousands of Them

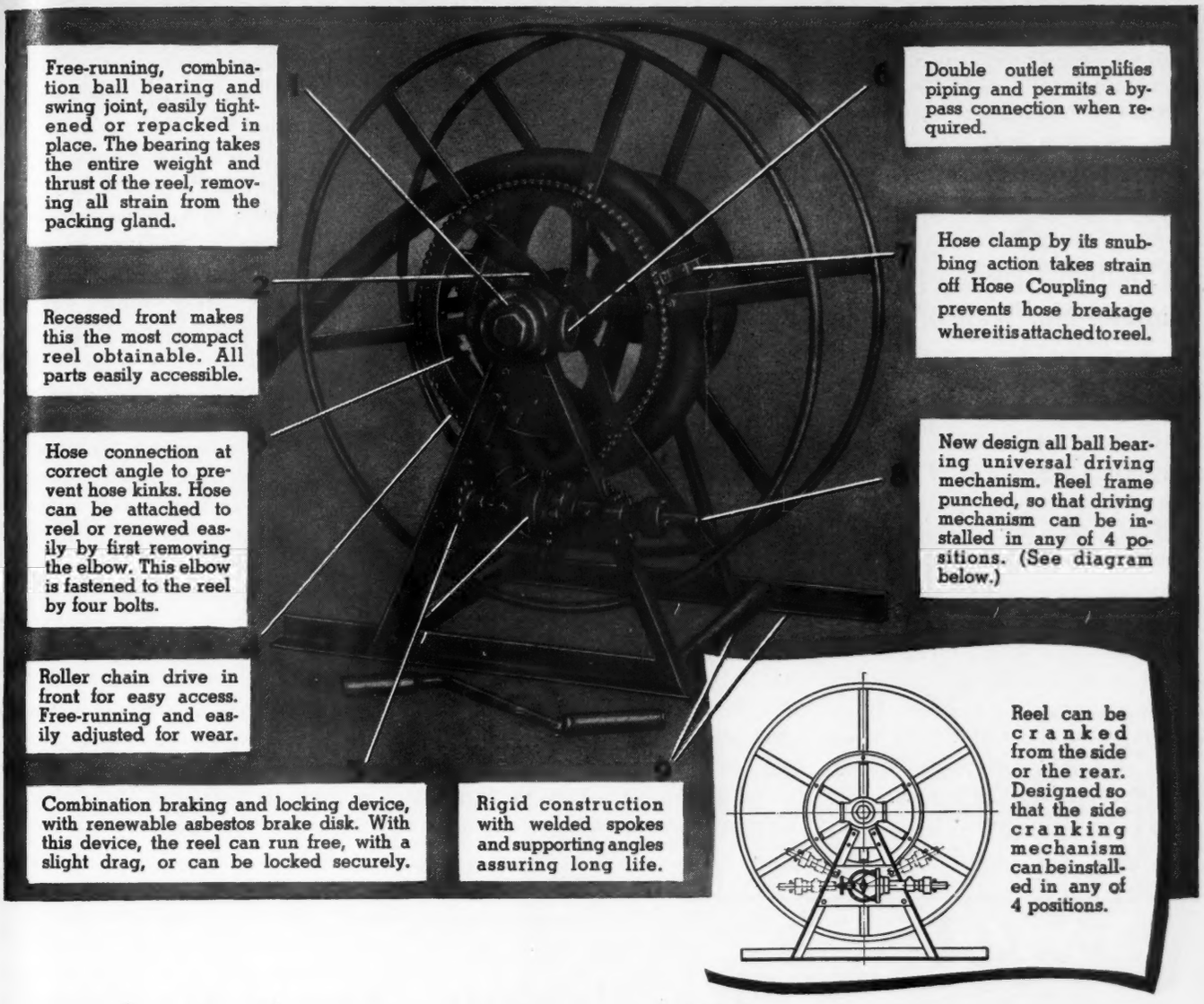
The percolating method engineered by Shephard, produces 20 gallons of water 90° rise, for one penny with fuel oil costing 7½c per gallon.

Distributors and wholesalers: some territory is still available, write today for descriptive literature, state territory you cover —it may be open.

Capacity water heaters: 65, 125, 175, 300, 500 GPH 90° rise. Capacity steam boilers: 300, 450, 650, 1150 sq. ft. radiation. Capacity hot water boilers: 450, 650, 1050, 1750 sq. ft. radiation. All models equipped with gun type burners with automatic controls.

All orders are filled sequentially—place your orders early for best deliveries.

SHEPHARD HEATER CO. 6624 SOUTH PARK AVE. CHICAGO 37, ILL.


1
Free-running, combination ball bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
2
Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
4
Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
5
Combination braking and locking device, with renewable asbestos brake disk. With this device, the reel can run free, with a slight drag, or can be locked securely.
6
Double outlet simplifies piping and permits a by-pass connection when required.
7
Hose clamp by its snubbing action takes strain off Hose Coupling and prevents hose breakage where it is attached to reel.
8
New design all ball bearing universal driving mechanism. Reel frame punched, so that driving mechanism can be installed in any of 4 positions. (See diagram below.)
9
Rigid construction with welded spokes and supporting angles assuring long life.
Reel can be cranked from the side or the rear. Designed so that the side cranking mechanism can be installed in any of 4 positions.

The New Hose Reel You Have Been Looking For

COMPACT, RUGGED, LIGHT IN WEIGHT, BALL BEARING CONSTRUCTION THROUGHOUT

The New Philadelphia Valve Co. reel is the finest reel built. It is compact, rugged, and light in weight. All parts are of steel, malleable iron, or bronze; no cast iron is used. It is ball bearing throughout with hardened and ground races. (6 ball bearings are used.) It will never wear out.

The reel can be changed from top winding to bottom winding by reversing the hose connection and rotating the drum. All working parts and hose connections are in front and easily accessible. It is light in weight, a reel that holds 100 feet of 1½" hose, weighs only 93 pounds.

We can furnish hose reels in any size or shape. They can be furnished for installation either in bucket box at rear of truck or in underslung box on side of truck. Give inside dimensions of box when writing for information. Special reels can also be furnished for Airfield Refueling Pits and Ship Docks.

Delivery can generally be made in a few days after receipt of order. For sizes, prices, and dimensions, write for Catalogue No. 165.

PHILADELPHIA VALVE COMPANY

ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA 34, PA.

Pacific Coast Distributor: Oil Marketing Equipment Co., 325 Fremont St., San Francisco, Cal.

distributors, yet many of the proprietors of these small places know little or nothing of regulations, including the keeping of records. So the enforcement staffs, about to take fresh shots in the arm and speed up activities, have some interesting problems ahead.

New Method Planned for Summer Hot Water Appeals

OPA'S FUEL RATIONING DIVISION has worked out a new arrangement for boards to grant additional rations on summer hot water appeals to eligible applicants. Slightly more complex than the procedure used in previous seasons, the new proposal is obviously more equitable, basing the amount of oil given on both the number of occupants and the size of the house.

While nothing on this has been finalized, the thinking of the Planning Section and its consultants is pretty well fixed on the new method and it probably will be put through, to become effective about April 15. The amount to be given for each month from the date of application to August 31 would be:

Floor area	*Base Gallons*	*Plus gallons for each Occupant*
Under 1000 sq. ft.	20	5
1000 to 1499 sq. ft.	25	5
1500 to 1999 sq. ft.	30	5
2000 to 2499 sq. ft.	35	5
2500 to 2999 sq. ft.	40	5
3000 to 3499 sq. ft.	45	5
3500 to 3999 sq. ft.	50	5

Houses of 4,000 ft. and over would get the same as the last bracket in the table. As an example, five people living in a 1600 sq. ft. house would get 55 gallons a month.

Ration Amendments

SINCE THE LAST ISSUE three additional amendments to Ration Order 11 have been made effective:

Amendment 49

PRESENT REGULATIONS

A ration may not be issued for the operation of fueloil burning equipment performing a commercial, industrial or agricultural process if the applicant has available for the purpose a facility using an alternate fuel (such as coal or wood), commonly referred to as a standby facility, unless he obtains from the Petroleum Administration for War an exception to Petroleum Distribution Order No. 13, as amended.

CHANGE AND REASON FOR CHANGE

A number of processors are required, as part of their normal operations or during peak periods, to use their fueloil burning equipment to supplement the output of their standby facilities. In addition, certain industrial processors are required to use their fueloil burning equipment when their standby facilities become unserviceable because of a breakdown or need for cleaning or overhauling. Since, under the present regulations, they may not receive a ration until the standby facility becomes unserviceable, there is a likelihood of an interruption in their operations. To meet these situations, it is desirable to provide for the issuance of rations to all processors who need them for supplementary use and to industrial processors in anticipation of an emergency of the kind described above. The unavailability of an alternate fuel or labor for the operation of a standby facility is not a basis for eligibility for these rations; in such contingencies, application must still be made to the Petroleum Adminis-

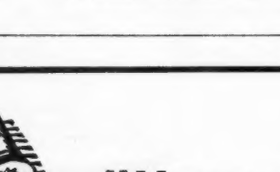
"Marry in Haste...Repent at Leisure"

Many a trusting lady has learned too late that the steady young man with whom she grew up was a better bet than the handsome stranger with the patent-leather shoes.

Dealers might do well to remember that sobering fact. Entering into a Dealership Franchise with a manufacturer is a long-haul, give-and-take proposition, that involves mutual good faith and dependability.

As a line that you can sell through the years with lasting satisfaction, Johnson Oil Burners deserve your earnest consideration. Their exceptionally high efficiency results in fuel savings and operating economies that competitive equipment cannot match. They are fully automatic, quiet, safe. And they have stood the test of time (42 years of it, to be exact . . . we've been making fine oil burners since 1903).

If you want a heating equipment line of known performance, known efficiency and established reputation, check up on Johnson Burners and the friendly, dependable service that backs them up.



There's a time-tested Johnson Oil Burner for every heating need!

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

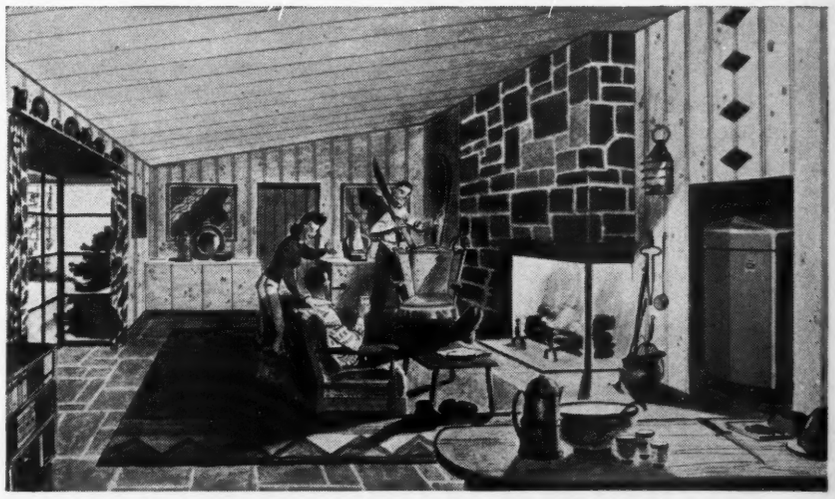
Builders of fine Oil Burner Equipment since 1903

"You have something every dealer will want!"

Lionel Jacobs—a Timken Silent Automatic Dealer and owner of one of the largest automatic heating businesses in the East—writes:

"The more I think of the future plans and strategy for use with Timken Silent Automatic products, which you discussed with me in your office last week, the more I realize you are right on the beam.

"I know of no other company which aids dealers in so many ways—with sales, with service problems, in business management, in hiring and training of salesmen, in laying out jobs to get the best heating results and even in training mechanics to install and service properly. Take it from me, you have something that every dealer will want when retail selling is resumed.



New U-Shaped Home, designed by Harold H. Ehlert, A.I.A., noted Detroit architect. One of a number of new homes by leading architects featured in Timken Silent Automatic national magazine and newspaper advertising.

"After talking with the engineering and research department heads, I'm convinced they will live up to their fine reputations of the past, and that we'll have everything that's new, improved and practical *productwise* to offer our customers.

"I want to congratulate you, too, on the splendid advertising job you are doing. We are getting evidence every day of the interest it is creating. Keep up the good work. We appreciate it.

"The thousands of owners of Wall-Flame Burners here certainly appreciate Timken Silent quality. They enjoy the extra heat (and comfort) they are getting from their rationed allotments of oil.

"They realize, as we do, that you have built many extra years of service into your product. That is why our customers were willing to pay more for a Timken."

Would you like to hear all the reasons why people are willing to pay *more* for Timken quality? Would you like to know how much more profit you can make with the Timken Silent Automatic franchise? Write us NOW and arrange an interview. There is no obligation.

TIMKEN

Silent Automatic

Quality Home Appliances for Comfort, Convenience and Economy • 20 Years of Faithful Service to American Homes

Division of THE TIMKEN-DETROIT AXLE CO., Detroit 32, Michigan

fuel oil / oil heat

tration for War. PAW has concurred in the action taken by this amendment.

Amendment 50

PRESENT REGULATIONS

1. A dealer or primary supplier who fails to comply with the requirements of the ration order regarding consumers' coupon sheets on deposit with him may (among other things) be ordered to return any of the deposited sheets and be prohibited from keeping consumers sheets on deposit. Such an order may be issued where, for example, a dealer has detached coupons from the coupon sheet before they became valid.

2. A District Director is authorized under certain conditions to issue an order permitting fueloil deliveries to be made by a dealer or supplier who had improperly detached coupons from deposited coupon sheets.

CHANGE AND REASON FOR CHANGE

A dealer or supplier may be required to return a deposited coupon sheet because of an order of a Special Hearing Officer, a suspension order prohibiting him from serving the consumer or in response to a demand from the consumer. If the dealer or supplier had detached coupons from the coupon sheet deposited with him in exchange for which he had failed to furnish the consumer the equivalent gallonage of fueloil, the consumer is deprived of that part of his ration. Similarly, a dealer or supplier who has been enjoined from further violations of the ration order cannot without again violating the order deliver fueloil against coupons he improperly detached.

To provide for a procedure for placing in the hands of the consumer the proper amount of his ration, under the circumstances described above, and at the same time giving full effect to the sanctions imposed on the violating dealer or supplier, this amendment authorizes:

1. The District Director to require the dealer or supplier to furnish him (in addition to an accounting) all consumers' coupon sheets from which coupons have been improperly detached where a suspension or court order has issued against the dealer or supplier for violations of the ration order;

2. A dealer or supplier to surrender to the District Director a consumer's coupon sheet from which he has improperly detached coupons (together with an accounting) where the consumer has requested the return of the coupon sheet or the dealer wishes to return it to the consumer;

3. The District Director to compute the undelivered balance of the ration to which the consumer may be entitled and to direct the Board to issue to the consumer a coupon sheet for that amount;

4. The inclusion of a direction for an accounting and the submission of the coupon sheets to the District Director (as specified in paragraph 1 above) in a suspension order or Special Hearing Officer's order.

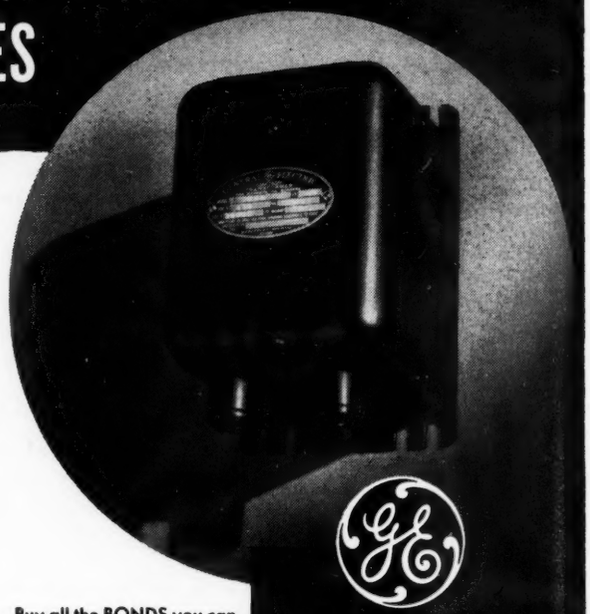
The above described procedure takes the place of the procedure provided for in Section 1394.5804.

Amendment 51

PRESENT REGULATIONS

Every dealer is required to submit a semi-annual report on OPA Form R-1198 Revised for each of his registered dealer establishments having a registered storage

PLAN NOW TO GIVE YOUR POSTWAR OIL BURNERS THESE *Extra* SALES FEATURES



Positive ignition, even under such adverse conditions as low line voltage (as low as 70 per cent of normal), heavy oil at freezing temperatures (as low as −10 C), cold spark point, and oil film on spark point, etc.

Exceptional freedom from radio interference—The Class E design (electrostatically balanced) has the midpoint of its high-voltage winding grounded, and a grounded electrostatic shield is incorporated between the high- and low-voltage windings.

Increased safety—A shockproof installation can be obtained without use of insulating caps or metal terminal shields.

Neater installations—Plug-type terminals simplify connections. Available for universal mounting, as shown, or with studs for concealed mounting. High-voltage circuit can be completely enclosed.

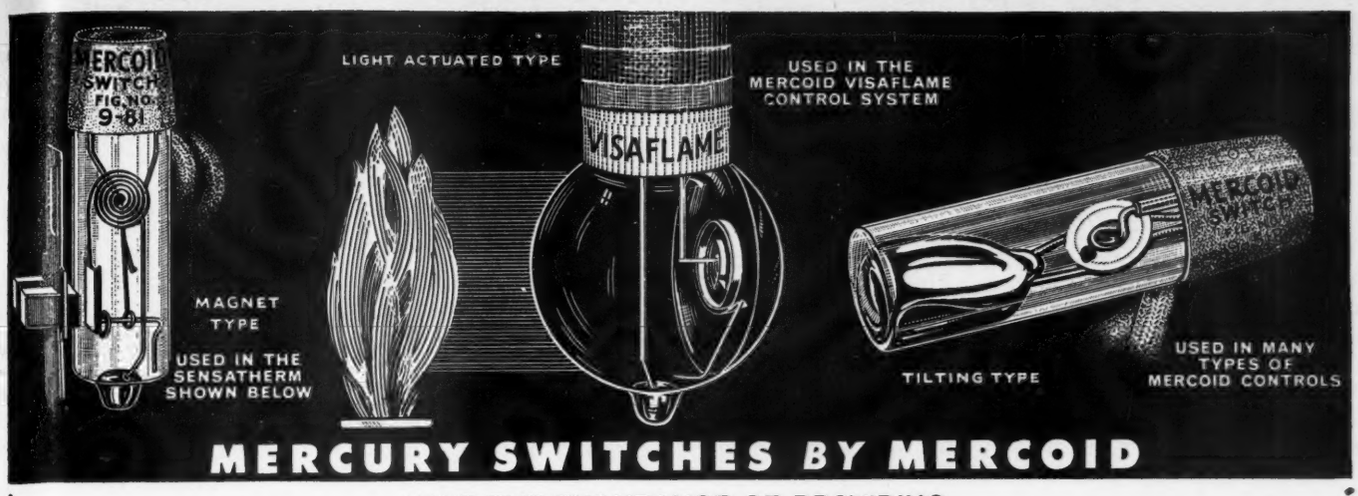
Is your file of ideas for postwar improvements up to date?

Bulletins GEA-912D, GEA-2587, and GET-1004 will bring you complete design and product data to add to your file of ideas for postwar improvements. General Electric, Schenectady 5, N. Y.

Buy all the BONDS you can —and keep all you buy

IGNITION TRANSFORMERS

GENERAL ELECTRIC


MERCOID SWITCH FIG. NO. 9-81
MAGNET TYPE
USED IN THE SENSATHERM SHOWN BELOW
LIGHT ACTUATED TYPE
VISAFLAME
USED IN THE MERCOID VISAFLAME CONTROL SYSTEM
TILTING TYPE
USED IN MANY TYPES OF MERCOID CONTROLS

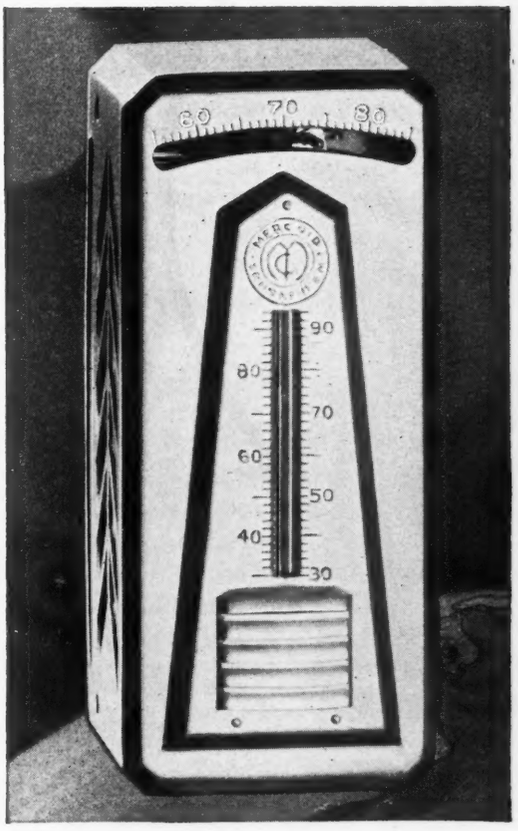
MERCURY SWITCHES *BY* MERCOID

HAVE THE ENDURANCE OF PROVIDING

MILLIONS

OF "MAKES" AND "BREAKS" IN THE ELECTRICAL CIRCUIT

USED EXCLUSIVELY IN ALL TYPES OF MERCOID CONTROLS



SENSATHERM

THEY ASSURE FULL PROTECTION AGAINST SWITCH TROUBLES

MEANING

BETTER AND MORE DEPENDABLE CONTROL PERFORMANCE INCLUDING MUCH LONGER AUTOMATIC CONTROL LIFE, FOR HEATING AND AIR CONDITIONING EQUIPMENT—ALSO FOR NUMEROUS IMPORTANT INDUSTRIAL APPLICATIONS

THE MERCOID CORPORATION 4201 BELMONT AVE., CHICAGO 41, ILL.

capacity of 1,000 gallons or more. Amendment No. 40 permitted such dealer who had a ration bank account serving two or more of his registered dealer establishments to file, under certain circumstances, a consolidated report for all establishments (regardless of storage capacity) which were served by that ration bank account, instead of the separate report then due for each establishment.

CHANGE AND REASON FOR CHANGE

For the reason that prompted Amendment No. 40, those dealers, who by permission of the District Director under that amendment, submitted the previous report in consolidated form, are allowed to submit a consolidated report for the one due by April 25, 1945.

ASH&VE Guide, 23d Edition Available for Distribution

THE 23RD EDITION of the Heating Ventilating Air Conditioning Guide published by the American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York 10, N. Y., is ready for engineers, architects, students, and the heating, ventilating and air conditioning industry.

A 15-page detailed index, a single page quick reference table of contents, and a brief summary of chapter contents under each chapter heading provide easy reference to the subjects treated in the book.

The Guide contains 48 chapters of technical data and information grouped under the general sub-divisions, Principles; Heating and Cooling Load Calculations; Combustion and Consumption of Fuels; Steam and Hot Water Heating; Air Heating, Cooling and Conditioning; Automatic Controls, Instruments and Motors; Special Applications and Miscellaneous. A change in format has increased the amount of text per page and consequently much useful information has been added.

The 1945 edition was compiled by 47 Society members and other engineers working under the supervision of the Guide Publication Committee composed of J. F. S. Collins, Jr., Pittsburgh, Chairman; W. C. Bevington, Indianapolis; C. S. Leopold, Philadelphia, G. H. Tuttle, Detroit; and T. F. Rockwell, Pittsburgh.

FHA Renews Summer Plan for Fuel Conservation Loans

THE FEDERAL HOUSING ADMINISTRATION in anticipation of short supplies of fuels during the winter months of 1945-46 has announced renewal for the third year of its "Summer Plan" for insured-financing of installations to conserve fuel through prevention of heat losses.

Under the plan, the first payment on FHA-insured loans made during the Spring and Summer for this purpose may be deferred until Fall.

The FHA has notified the 5,000 private lending institutions authorized to operate under its Title I program that initial payments on loans made on and after April 2 may be deferred until November 1, 1945, providing the entire proceeds are used for the application of insulation, storm sash, weather-stripping and other fuel conserving measures set forth in the Amendment to FHA Title I Regulations.

Under Title I, loans for heating conservation measures are available through

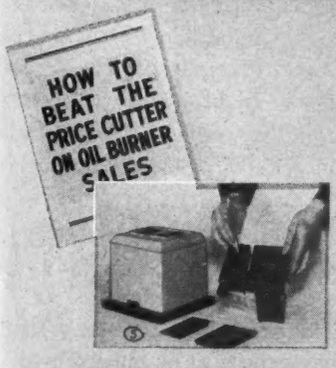
Render helpful profitable service to all your customers. Tell them how SILOO removes gums and sludges, instantly relieves clogged filters and pipe lines, keeps fuel oil systems clear of water, and is a check on excessive smoke. SILOO is non-explosive, non-inflammable, non-corrosive, non-poisonous. It does not affect oil characteristics.

SILOO treatment is simple, rapid, positive. At moderate cost it restores and maintains the function and efficiency in oil burners, space heaters, oil stoves, and lamps, and secures for your customer dependable heat, day and night. Write today for Dealer Proposition, explaining how you can make every service call a profit call.

PETROLEUM SOLVENTS CORPORATION

Solvents For All Types of Petroleum Residues

General Offices: 331 Madison Avenue, New York 17, N. Y.



WILL YOU *Cash in*... when the green light appears?

Will you be all set to cash in—to go out and get the cream of the sales when Government restrictions are eased?

Most dealers will be faced with the job of rebuilding their sales and service departments before they can hope to get back to volume sales and profits again. The makers of Master Kraft are ready to help their dealers get all set—fast.

The Harvey-Whipple Sales and Service School worked wonders for Master Kraft dealers in the days before the war. See pictures of students and text books above and at left. Now this school will be a lifesaver for the dealer who must train new salesmen and servicemen. When the green light appears, the sensational new postwar line of Master Kraft conversion burners and packaged heating units will be announced. All dealers will receive swift and immediate training in how to demonstrate and sell this new equipment rapidly—enabling them to get the jump on their competitors.

Perhaps you are one of the dealers who can use the help of the Harvey-Whipple Sales and Service School. For more details about this school—and the Master Kraft postwar line of equipment—write us.

Master Kraft

REG. U.S. PAT. OFF.

OIL HEAT

MANUFACTURED BY

HARVEY-WHIPPLE INC., Springfield, Mass.

lending institutions in amounts up to $2,500 and are payable in monthly installments over as long as 36 months. The Board of Governors of the Federal Reserve System has exempted loans for these purposes from its restrictions on consumer credit. Generally, installations of the type involved may be undertaken without authorization from WPB.

◈

Hotels to Spend 33 Million for Heating, Airconditioning

A PROGRAM CALLING for the immediate expenditure of almost $300,000,000 in the rehabilitation of hotels, when men and materials are available after the war, is announced by the hotel industry in seeking tax relief from the U. S. Treasury Department for this purpose.

It is estimated that heat, air conditioning and ice equipment expenditures will amount to not less than $33,216,916, with plumbing costs not less than $25,975,948 of the total planned expenditure. This is exclusive of any new hotel building that may be undertaken in congested areas suffering from a shortage of rooms. It is believed there will be relatively few such areas when conditions return to normal.

The group of large AHA hotels, of 300 rooms and more, covered by the survey, show a planned expenditure of $101,851,854. The group in the 100-299 room category plan expenditures of $133,870,240, while hotels of from 50-99 rooms plan to spend $56,054,160.

Heat, air conditioning and ice equipment planned in these three categories amount to $13,012,616; $15,910,300; and $4,294,000 respectively.

The average heat, air conditioning and ice equipment expenditure, per hotel, in the first category (300 and more rooms), is calculated at $39,916; in the second category (100-299 rooms), $13,370; in the third category (50-99 rooms), $2,825.

◈

New PAW Limitation on Industrial Space Heaters

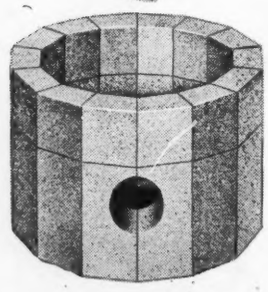
APPROVAL OF THE Petroleum Administration is now required before any kind of fueloil can be used in commercial or industrial space heaters that are installed after February 26, 1945, and which singly or in combination burn 10,000 or more gallons a year.

Action was taken by amending a formal order (Petroleum Distribution Order 13) to bring the use of fueloil in large heaters under the provisions of the order, which stipulates in what ways fueloil may be used. Previously, these large-scale consumers could obtain fueloil coupons through the Office of Price Administration without obtaining prior PAW approval.

No action had been necessary until now because space heaters usually are used in residential establishments or in small stores and offices to heat a single room. The quantity of oil burned by this type of consumer is small, and no control of this supply other than OPA rationing has been necessary.

In recent months, however, manufacturers have developed large space heaters that are being installed in warehouses and other large commercial establishments to heat large areas. The new action is designed to control more closely the large supply of fueloil that is beginning to be diverted into channels that previously had not used this type of fuel.

50,000 Fuel-Saving Combustion Chambers LINED with B&W Insulating Firebrick



WAR NOTE

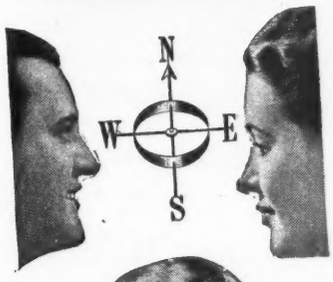
Now is the time to do your part in the great oil conservation drive. Sell B&W Insulating Firebrick—increase your own profits and build customer satisfaction.

More than 50,000 home owners are helping the war effort—consciously or unconsciously—by saving oil through the use of B&W Insulating Firebrick in oil burner combustion chambers. In many cases savings run as high as 20 to 22 per cent.

B&W Insulating Firebrick, replacing heavy firebrick in combustion chambers, invariably increase the CO_2 readings. They also make possible quick response to thermostats, less soot and smoke, greater overall efficiency. R-179

THE BABCOCK & WILCOX COMPANY • Refractories Division • 85 LIBERTY ST., NEW YORK 6, N.Y.

BABCOCK & WILCOX



Everywhere... you can "look it up in the Classified"

From people everywhere come these typical statements about the usefulness of the Classified Telephone Book.

N — *"Found a repair man for my make of vacuum cleaner."*

E — *"Found a service station for my make of car."*

S — *"Found a beauty shop when I was in a strange town."*

W — *"Found where to buy advertised brands."*

Yes, the Classified is handy everywhere. Do you refer to it for buying and servicing information on advertised products?

14 Year old campaign helps form national habit

THE ad shown here is typical of a series reaching millions of telephone users, month after month—through American Home, Better Homes & Gardens, Collier's, Saturday Evening Post.

This campaign, now in the fourteenth straight year, reminds people of the real help they can get in the Classified section of Telephone Directories.

That's why more people than ever are referring to this popular guide. Today, they use it to find where to go "to make the old do until they can buy new." Through it, also, they locate outlets for well-known branded products.

It's a national habit to look in the Classified. This campaign makes the habit more frequent.

Note actual examples, in the national magazine ad above, of how the Classified helps people. You could match these cases in your town too.

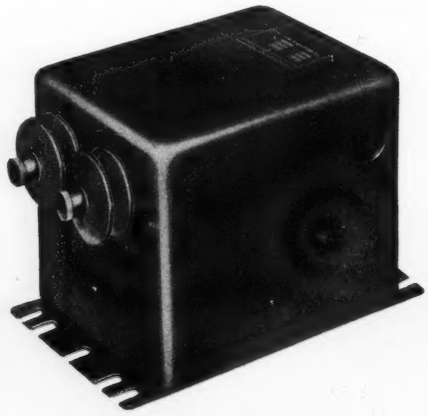
fueloil & oil heat

Gas Gains 13,000 Heating Users In Year

LATEST PUBLISHED DATA on number of domestic central heating users of manufactured gas is in American Gas Association's summary of November 30, 1944. At that time there were 399,600 such gas customers, compared with 386,600 on the same date in 1943, or a gain of 13,000. The summary also shows the changes for the year in a few of the principal manufactured gas consuming states. These are shown in the accompanying table.

State	Number of Companies	Central Heating Users Nov. 30, 1943	Central Heating Users Nov. 30, 1944	Customers Gained
6 New Eng. States	42	29,447	30,073	626
Massachusetts	21	22,142	22,728	586
Connecticut	9	4,146	4,190	44
New York	14	42,364	44,629	2,265
New Jersey	10	18,732	19,442	710
Pennsylvania	22	17,311	20,603	3,292
Wisconsin	12	4,680	4,702	22

House heating gains in the natural gas industry are more difficult to measure, principally because those utilities frequently lump their heating customers along with all domestic users. There is no question but that natural gas has made important gains during the past year in a few spots of the Midwest. One such city is Minneapolis, where gasburners and stokers, as well as oilburners, must have permits for installation, so comparisons can be made. Total Minneapolis installations in 1944 were gasburners 1,470, stokers 324 and oilburners 226.



FOR DEPENDABLE SERVICE

Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.

DONGAN ELECTRIC MFG. CO.

2981 Franklin Detroit 7, Mich.

The Dongan Line Since Nineteen-Nine

WRITE FOR LITERATURE

DONGAN TRANSFORMERS

OHI Annual Meeting At Chicago May 7 and 8

WHILE IT IS NOT POSSIBLE, because of Office of Defense Transportation restrictions, to hold an annual meeting in the usual sense this year, directors and committeemen of the Oil Heat Institute will get together in Chicago's Hotel Stevens on May 7 and 8 to elect new officers and directors and conduct other business normally required at the annual meeting. Institute members will be asked for voting proxies, since ODT limits the number that may attend.

On Monday, May 7, will be held the meetings of the Emergency and Postwar Planning Committee and the Distribution Division officers. On Tuesday, May 8, the annual meeting is scheduled, and at that time reports will be read from the Engineering Committee and the Accessory Division. A new president of the Institute will be elected, since C. E. Lewis is no longer eligible. Under the Institute's by-laws the president must be an oilburner manufacturer, while Lewis is now an accessory manufacturer.

Doughlas and Seidler, Washington, D. C., have been made Manufacturers' Representative for the L. J. Mueller Furnace Co., Milwaukee, Wisc. They will serve the state of Virginia, a portion of the states of Maryland and North Carolina, and the District of Columbia. Also appointed by Mueller to serve as their representative is *Ray Maxwell,* New Orleans, La., to serve in a territory including a large portion of Louisiana, as well as Arkansas, Mississippi, Alabama, and Florida.

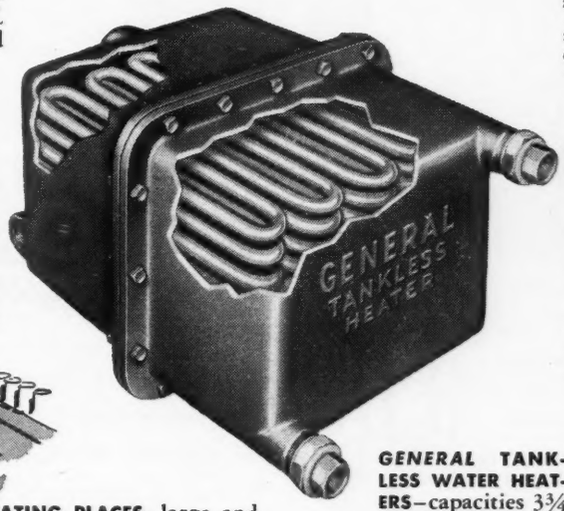
PLENTY OF HOT WATER-EVERYWHERE!

THE WELCOME WORK-SAVERS OF THE POSTWAR HOME WILL GIVE THEIR BEST SERVICE WHEN YOU INSTALL A GENERAL TANKLESS HEATER

THE SUPER-SINK, with built-in dishwasher, will make greater demands on the hot water supply. But with *GENERAL* Tankless Heater this demand is easily met.

WHATEVER SHAPE the post war washing machine takes, its labor-saving function will depend on plenty of good, *clean* hot water. That's just what you get from the seamless copper tubing in the *GENERAL* Tankless Heater.

EATING PLACES, large and small, will be installing modern, sanitary dishwashers requiring large amounts of pre-heated water – an easy job for *GENERAL* Tankless Heater!



***GENERAL* TANKLESS WATER HEATERS**–capacities 3¾ to 35 g.p.m. Seamless Copper Heating coil.

INCREASED POPULARITY of showers, both for bathrooms and industrial washrooms, means increased need for constant supply of hot water –which *GENERAL* Tankless Heaters deliver....

BACK UP the modern kitchen, bathroom and commercial units with an *engineered GENERAL* Tankless Heater. It means more profit for you – and more satisfaction for your customers. This up-to-date heater is compact, self-contained, quicker to install and takes less space than storage tank systems. Hook it up directly to any automatically-fired boiler and it will give 3½ to 35 gallons of hot water every minute! Troublefree seamless copper tubing ensures a lifetime of sediment-free water. *GENERAL* is the *only* complete line of tankless heaters for domestic and commercial installation.

UNTIL VICTORY, a major part of our production is precision war work on topedo and bomb parts, fuse setters, special navy water heaters.

SEND FOR CATALOG 15 describing Tankless Heaters and other specialties by: *General Fittings Company*, 125 Georgia Georgia Avenue, Providence 5,

GENERAL

TANKLESS WATER HEATERS

Also Tank-Type Water Heaters • Thermostatic Mixing Valves
Water-Hammer Silencers • Coil-heated Tanks
Live-Steam Heaters • Pipe Unions

Plan Warm Air Heating School for Dealer Men

A THREE-DAY ENGINEERING SCHOOL has been planned by The Henry Furnace Co., and the C. A. Olsen Mfg. Co., Cleveland, for the first week in April, with Clarence Grandstaff in charge of engineering instruction. Mr. Grandstaff is one of the instructors at the annual Michigan State University Short Course, sponsored by the National Warm Air Heating and Air Conditioning Association.

Plans, according to Edward P. Hays, vice-president, include instruction in the following topics:

a. How to figure the heat loss of a building
b. How to compute the heating requirements of each room and the proper size and location of pipe, fittings and registers
c. Making a gravity furnace layout
d. Making an air conditioning layout
e. How to set up a gas fired unit properly
f. How to wire controls properly
g. How to install forced air ducts and fittings properly.

The new, educational, engineering literature which has recently been issued by The National Warm Air Heating and Air Conditioning Association will be used for the Engineering instruction. Each person attending will receive a set of this literature for his future use.

Philco International Will Export Coroaire Heaters

PHILCO INTERNATIONAL Corp., subsidiary of Philco Corp., Philadelphia, will handle world-wide exports of winter air conditioning units of the Coroaire Heater Corp., Cleveland, according to A. W. Conley, Coroaire vice-president and general manager.

J. Avery Buyton, vice president of the Belcher Oil Co., Miami, Fla., since 1919 has resigned. *Mr. Buyton* in 1916 was agent for the Buyton and Moore Co., fueloil distributors. He became manager of the Belcher Oil Co. in 1918 when that firm grew out of a reorganization of the Belcher Asphalt Paving Co. He later became vice president.

WRITE NOW!

FOR THIS FILE SIZE FOLDER ON MEL *Adjustable* FUEL-OIL GAUGES

Orders are at present being filed as received for post-war completion for the original MEL-GAUGE that is *adjustable for easy reading and an accurate check of fuel-oil contents at all times. If you haven't determined your future needs, do so now. Write for our free specification folder and check the difference between *adjustable* MEL-GAUGES and ordinary fuel-oil gauges . . . All prices and specifications subject to adjustment when W. P. B. restrictions are lifted.**

Economical* ✶ *Dependable

Model C

*Patented

Mel-Gauge COMPANY

EAST HAVEN, CONNECTICUT

DISTRIBUTORS AND JOBBERS

There are still many valuable territories open for MEL-GAUGE representation. Write us today concerning territorial agreements.

There's a BIG MARKET *for* DUST-STOPS*

Yes! a big PROFITABLE market, easy to REACH and SELL!

A big market today (and one bound to grow tremendously in the Postwar Period) is the market for DUST-STOP Air Filters — the *1,700,000 homes* equipped with *forced-warm-air* furnaces.

Averaging two to three filters per unit and these needing *replacement at least once a year*, this filter business runs into volume and can make you some money. Better yet, it can help you get extra "service" business and *get it when you want it.*

Practical promotion plans, built around effective mailing pieces and other proved selling helps, make it easy for you to go after this business. Ask your DUST-STOP Wholesaler to show you the new FREE DEALER HELPS! Plan *now* to boost summer sales and profits with a timely DUST-STOP Promotion Program.

Owens-Corning Fiberglas Corporation, 1940 Nicholas Building, Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ont.

DUSTOP AIR FILTERS

—a FIBERGLAS product

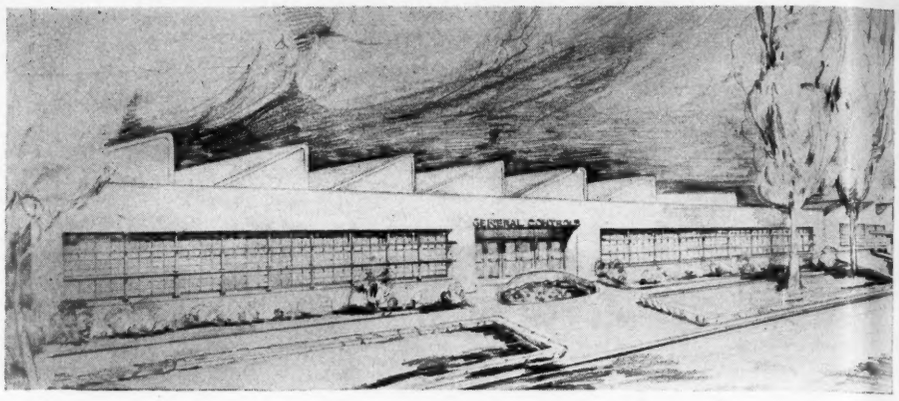
*T. M. Reg. U. S. Pat. Off.

Every owner of a forced-warm-air furnace needs two or more Dust-Stop Air Filters . . . at least once a year.

fueloil & oil heat

General Controls Co. Expanding Its Plant

GENERAL CONTROLS CO., Glendale, Calif., manufacturer of electro-magnetic control valves, announces the completion of another step in an expansion program that will soon put three acres of factory space under roof. The immediate expansion includes a processing plant, with 10,000 sq. ft. of space, in which the Heat Treating, Anodizing, Mechanical Deburring, Sand Blasting and Painting Depatments are housed.



New *California Plant of General Controls Co.*

In addition, a new, modern office building will soon be ready for occupancy. This building, which embodies several innovations in design and construction, measures 235 x 45 ft., and will house the Executive Offices, the Administrative, Sales, Advertising and Sales Promotion Departments. Upon completion, this move will make available an additional 10,000 ft. of badly needed factory production space.

A DEALERSHIP PLAN

that (1) is practical
(2) offers real post-war
profit opportunities

IF you have not received full information on the Herco dealership plan, ask for it now! Many oil burner dealers have already included this practical dealer-manufacturer plan in their post-war sales set-up.

Based on sound selling and distribution principles, this plan makes no extravagant or impractical promises. Its chief aims are to distribute the first limited supplies equitably . . . and to protect the dealer on supply and market problems which will arise when restrictions on the sale of heating equipment are lifted.

The new Hercos will offer splendid post-war profit opportunities. A famous and reputable name, *plus* proved, dependable engineering, *plus* new and improved features . . . these add up to post-war profits that will stick!

Write for details on the Herco dealership plan, today.

HERCO OIL BURNER CORPORATION LANCASTER, PA.

Service in Wartime Sales in Peacetime

HERCO
The Oil-Thrifty
OIL BURNER

Finance Magazine Reports On Matheson of Oil-O-Matic

W. A. MATHESON, president of Williams Oil-O-Matic Heating Corp., Bloomington, Ill., was the subject of a feature article in the February 25 issue of "Finance," a semi-monthly business publication for banks and other financial institutions. Under the title, "A Fighting Captain of Industry," the article outlined Mr. Matheson's career from a position as salesman in Portland, Ore., to president of Oil-O-Matic which under his direction has done an outstanding job in war production.

"Being a born salesman," the article editorializes, "W. A. Matheson has that quality of complete confidence in himself, and his organization and its products, that wins the confidence of co-workers inside the organization and the customers without. He has the faculty of getting people to tackle the seemingly impossible —and like it."

The article covers in detail some of the work that has won Oil-O-Matic four Army-Navy "E" Awards, the Army Air Corps "Approved" rating, and the complete confidence of the Ordnance Department in its District. The cover of the issue of "Finance" carried a portrait of Mr. Matheson.

Penn Boiler Names Thirty Representatives

PENN BOILER AND BURNER MFG. Corp., Lancaster, Penna., has announced the names of thirty dealers who have signed the regular Penn franchise to handle the line of oil and gas fired postwar boiler line. The new dealers are:

John B. Wood, Birmingham, Ala.; Andalusia Mfg. Corp., Andalusia, Ala.; Automatic Heating Co., Bridgeport, Conn.; Porter Engineering Co., Washington, D. C.; Tampa Coal Co., Tampa, Fla.; Florida Weathermakers, Jacksonville, Fla.

American Fuel Oil Co., Miami, Fla.; Felder-Bell Co., W. Palm Beach, Fla.; J. A. Portner, Wheaton, Ill.; Furnace Contractors, Hammond, Ind.; H. B. Shank & Sons, Ft. Wayne, Ind.; Von Tobel Lumber Co., Francisville, Ind.

Royce M. Wiggins, Poseyville, Ind.; Lavanier Supply Co., Covington, Ky.; Bailey Bros., Midland, Mich.; Woodman Engineering Co., Jefferson City, Mo.; Walter Low, Exeter, N. H.; Northern Air Conditioning Corp., Newark, N. J.

Roofing Plumbing Heating Supplies, Atlantic City, N. J.; Budd's Saranac Lake, N. Y.; Elmira Coal Co., Elmira, N. Y.; Williams Heating Engineers, New York City; Harry L. Fitch, Rochester, N. Y.; Gilbert & Knight, Utica, N. Y.

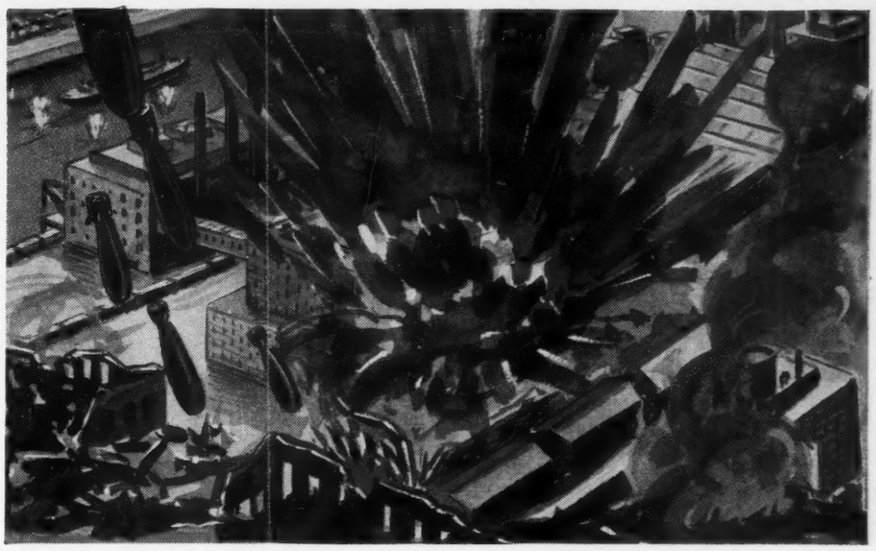
Marco Bros., Schenectady, N. Y.; Isle Fuel Oil Service, New Brighton, N. Y.; Harry E. Hoagland, Columbus, Ohio; V. H. Steckel, Allentown, Pa.; A. L. Gossett, Houston, Tex.; Central Mfg. Co., Roanoke, Va.

◈

Harold D. Bates has been named advertising and sales promotion manager, *Chester L. Owens* has been named assistant general sales manager and *George B. Johnston* has been named general merchandising manager of The Philip Carey Manufacturing Co. All three men will make their headquarters at Cincinnati.

Milton Way and *Carl Wolff* have formed Ray Oil Burner Sales, Inc., new exclusive factory distributors for greater New York.

Bernard Gould has been appointed general sales and advertising manager of the Aeroil Burner Co., Inc., West New York, N. J.



HOW LONG DOES IT TAKE TO BURN OUT 240 BLOCKS OF TOKYO?

How big is the target? How much ammo? How much time? How far, the distance? How much gas? . . . All important questions, these, to our B-29 and Superfortress pilots over Tokyo! They are given expert preliminary briefing on all but the one—How much gas? But the answer to that, infallibly correct, is constantly before them—in a Boston Auto Gage Company gage. It's this same *reliability* that we build into

Triumph

MAGNETIC GAGES

for Your

OIL TANKS

RED HEAD GAGES are famous for EASY VISIBILITY—from BOTH SIDES . . . INFALLIBLE ACCURACY . . . SIMPLE, DURABLE CONSTRUCTION and LEAK-PROOF for FUEL and FUMES.

The RED HEAD is available in two types—Union Type and Screw Type—for 1½ inch or 2 inch pipe size openings, and for tanks from 22 to 45 inches in depth or adaptable up to 90 inches depth.

Sold by leading dealers everywhere.

The BOSTON AUTO GAGE CO.

PITTSFIELD . . . . . MASSACHUSETTS

Makers of gages for any size or shape tank for Fuel Oil Burners, Automobiles, Trucks, Buses, Motor Boats, Stoves, Aircraft.

New Products

Colco Water Treatment

THE COLEMAN Co., Everett, Mass., manufacturer of pipe dope, cutting oil and furnace cement, has announced Colco boiler water treatment. The chemical is said to dissolve boiler scale and sediment and precipitate it so it can be drained from the heating system.

It is claimed that the treatment can be given to any heating boiler without shutting down the heating system. The chemical is added to the water, and after operating for about an hour, the mud and scale is precipitated and can be drawn off.

Conditioner for Nozzles And Fueloil Pump Parts

A CONDITIONER FOR NOZZLES and oil-handling pump and fuel unit parts has been announced by F. J. Martin, Bradley Beach, N. J. This solution is claimed to remove carbon from oilburner nozzles, and wax, gum and sludge from strainers, valves and pump parts without removing them from the burner. The cleaner is poured into the strainer and pump to fill them, and the burner operated so that all parts are thoroughly washed.

It is claimed that the conditioner makes possible the cleaning of oil-handling burner parts without removing them, thereby cutting down the possibility of call backs due to leaks and faulty gaskets. The solution is said not to attack metal parts.

Siloo Sludge Solvent

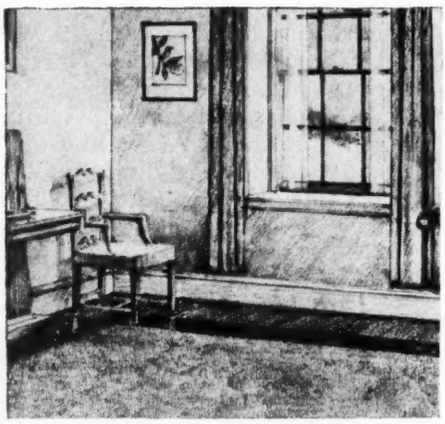
PETROLEUM SOLVENTS Corp., New York, is marketing Siloo Fuel Oil Tank Solvent, a non-inflammable, non-corrosive and non-toxic liquid designed to disperse water and foreign matter in an oil tank and prevent sludge formation. It is also claimed to remove polymerized gums and acts as an inhibitor against electrolysis.

The company warns that Siloo will not compensate for an incorrectly adjusted burner or an inadequately designed combustion chamber or leaky furnace. It is solely a cleaner for oil tanks, lines and oil-handling parts.

Treatment recommended is one quart of Siloo for each 275 gallons of domestic fueloil or less, two quarts for tanks ranging up to 550 gallons. This treatment three or four times a year is sufficient.

Baseboard Heating Planned by W. Webster

HEATING SYSTEMS having no radiators visible in the living space are planned by Warren Webster & Co., Camden, N. J., and will become available as soon as war conditions permit. Heat exchange elements, consisting of a pipe around which



are coiled fins of fine copper sheet, are installed behind the baseboard on exposed walls. Room air enters at the floor level, passes over the tubes, and warm air comes out at the top. Because warmed air is delivered over the entire length of the exposed wall, it is claimed there is no concentration of heat and practically no variation in temperature from wall to wall or from floor to ceiling.

This system has been developed by Warren Webster engineers over several years and has been thoroughly tested. It is claimed that the differential in heat at different levels and in different sections of the heated area is less than 2 degrees.

"Lo-Volt" Test Glo

A NEW CIRCUIT TESTER called the "Lo-Volt" test glow, intended for testing circuits from 5 to 50 volts, has been announced by the Ideal Commutator Dresser Co., Sycamore, Ill. It can be used for indicating the relative value of line voltage.

The glow lamp is protected by a transparent plastic housing. Overall length is 7 ins. with insulated test leads 4 ins. long. A clip allows it to be easily carried in the pocket.

Suggests Tube Cleaning Methods and Procedure

CORRECT STEPS to be taken before, during and after a tube-cleaning operation to insure highest efficiency are outlined in a new service bulletin just received from Thomas C. Wilson, Inc., Long Island City 1, N. Y.

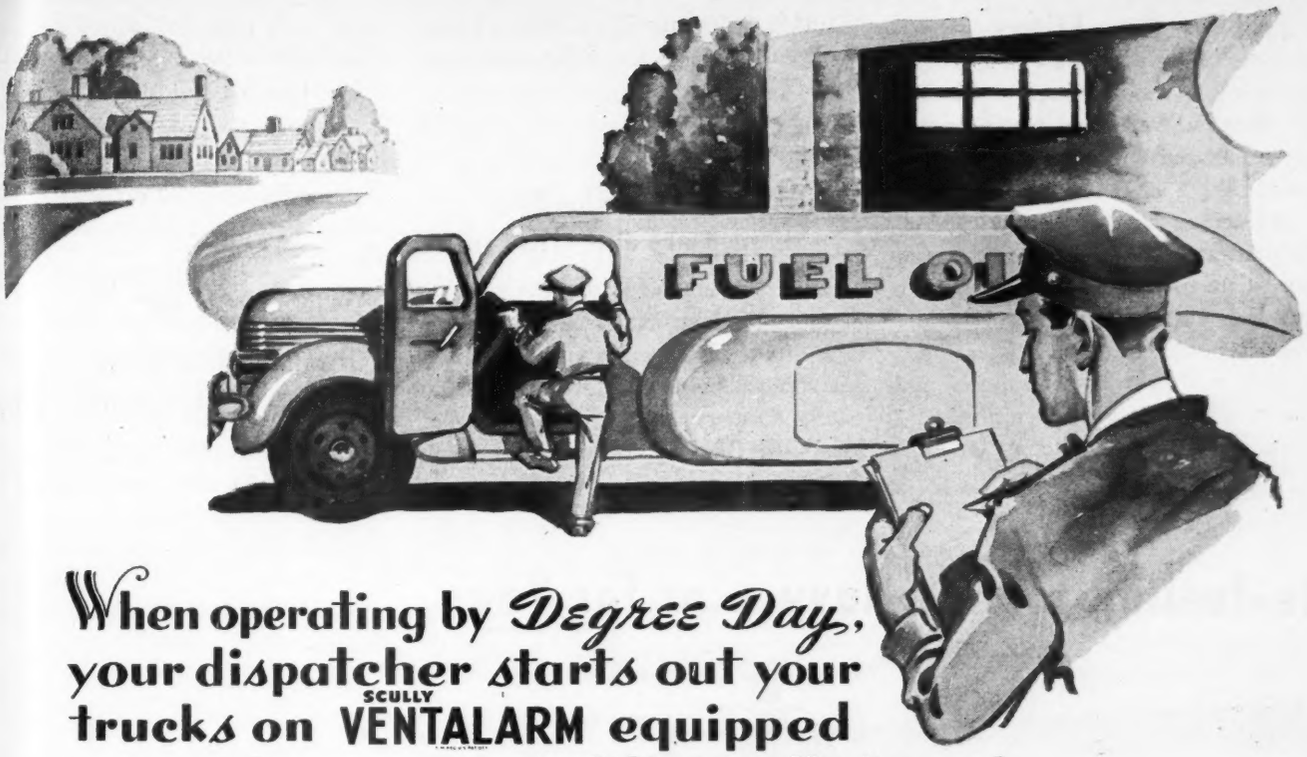
Supplied in the form of a step-by-step check list, this information covers selection of appropriate equipment, proper cleaning procedure, care of cleaning equipment, and listings of types and sizes of motors, cutters, brushes and other accessories required. Illustrations identify the equipment described and recommended.

Pumping Unit Is Portable

TEMPORARY PUMPING FACILITIES are provided by a new self-contained rotary pumping unit announced by Blackmer Pump Co., Grand Rapids, Mich. It is powered by a 2 hp. Wisconsin gasoline engine which is mounted on a fabricated steel base with the 90 gpm pump with built-in chatter proof relief valve and oil immersed drive.

The base is fitted with telescopic handles for convenience in moving. The complete assembly weighs 330 lbs. and can be carried by two men.

HOTSTREAM HEATER CO., Cleveland, Ohio, recently opened its new plant at 2363 East 69th St., Cleveland, with formal ceremonies. L. R. Mendelson, president, paid tribute to the many faithful employees, calling attention to the fact that 66% of present employees have been with the company for more than five years, 21% more than 20 years, and 7% for more than 25 years.



When operating by *Degree Day*, your dispatcher starts out your trucks on SCULLY VENTALARM equipped routes, you are utilizing the most effective and economical system of fuel oil distribution yet devised..

Type LC

No threading

Sizes: ¾", 1", 1¼", 1½" and 2".

TYPE LC
For present installations. Cost $1.75 each. Installation cost approximately $1.00 each.

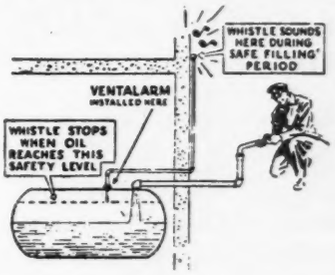
Here's *HOW* and *WHY* SCULLY VENTALARMS make Degree Day delivery click!

1. Your driver fills to the same level on every drop.
2. Each *drop* is the consumption since the last drop.
3. The USABLE Degree Days, *after a drop*, are always the same unless the "K" factor changes. This *eliminates* figuring usable Degree Days after each drop.
4. The ability to deliver, irrespective of whether the householder is at home or not, makes *safe* a smaller tank reserve, thereby increasing the usable Degree Days and in consequence *enlarging* the size of the average drop.

ALL these benefits and the fact that Scully VENTALARMS *pay for themselves the first heating season* show why hundreds of thousands of VENTALARMS are already installed.

PROMPT DELIVERIES IF YOU ORDER NOW!

How it Works


WHISTLE SOUNDS HERE DURING SAFE FILLING PERIOD
VENTALARM INSTALLED HERE
WHISTLE STOPS WHEN OIL REACHES THIS SAFETY LEVEL

Whistles while the tank is being filled. Stops whistling when the tank is properly filled.

SCULLY VENTALARM

T.M. REG. U.S. PAT. OFF.

The Whistling FUEL TANK SIGNAL

SCULLY SIGNAL COMPANY

88 FIRST ST., CAMBRIDGE 41, MASS.

fueloil & oil heat

Describes Filters

THE COMPLETE NEW LINE of Agitair air filters for air conditioning, ventilating, heavy-duty industrial, and grease removal applications are fully described in the new 24-page, 8½ x 11 in. Bulletin AF-44-1, of Air Devices, Inc., New York. The bulletin illustrates and gives valuable engineering data for Agitair Type P, Permo-Aire Heavy Duty, and Permo-Aire Grease Removal Filters and filter units, and filter holding frames. Diffusers and Exhausters are also briefly described.

Two new 2-page bulletins are also available describing Type P Air Filters (Bulletin PF-44-1) and Exhausters (Bulletin EX-44-1).

Heater Speeds Unloading Tank Cars and Oil Trucks

BROWN FINTUBE Co., Elyria, Ohio, has developed a new immersion type steam tank heater for lowering viscosity of oils and speed the unloading of tank cars and trucks. Heaters consist of a number of lengths of Brown Fintubes connected in series with inlet and outlet steam lines. They have a low center of gravity and can be handled by one man.

Cross handles aid positioning the heater over the discharge outlet in the car, blocking the heater at various depths, and removing the unit after the car or tank after it is empty.

Funnel Aids Filling Horizontal Drums

A HEAVILY CONSTRUCTED FUNNEL which provides a safe and easy means of refilling drums in a horizontal position, has been announced by Industrial Products Co., Philadelphia. This eliminates the necessity of lifting the drums on end to fill.

Strong steel legs are riveted to the sides of the funnel and clamp tightly to the drum chime. There is no danger of tipping or spilling, and hands are free for pouring.

Unfilled Radiation Orders Equal Six Months' Capacity

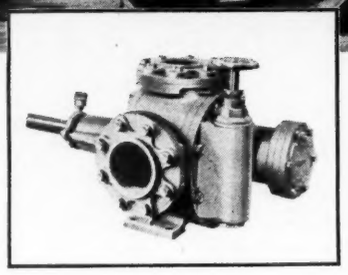
SIX MONTHS WOULD BE NEEDED to fill present unfilled orders for radiation if no new orders were placed, according to information presented to the War Production Board's Cast Iron Boiler and Radiator Labor Advisory Committee by WPB officials, WPB reported.

The Government spokesmen reported that production—which was 25 percent below schedule in 1944—is continuing to decline, in the face of expected sharp increases in civilian and military requirements for 1945. Estimates indicate that approximately 3,250,000 square feet of radiation will be needed for the veterans' hospitals program.

Minimum radiation requirements for 1945 are 25 percent of pre-war output, WPB said. Actual production last year was approximately 20 percent of normal peace-time output.

GENERAL HEATING PRODUCTS CO., Minneapolis, Minn., has just published a new folder on their Uniduct system of prefabricated ducts, which are applied in conjunction with a special plenum chamber, an integral part of the system.

Re-fueling for the Navy...or for You



There are enough
TRI-ROTOR PUMPS
for both

Production schedules at Yale & Towne permit acceptance of orders from industrial and commercial users for TRI-ROTOR PUMPS. AA-5 priority is required, and the highest ratings are given preference.

In considering pumps for your requirements, remember that TRI-ROTOR PUMPS are the *only* modern low pressure pumps that operate with the *power economy* of a rotary and have the *positive handling characteristics* of a piston pump. They will not overheat, chew, foam or agitate your product.

Four head styles are available: Solid Head, By-pass Head, Variable Volume Head, or the Variable Volume Head Manual Flow Control — with which flow can easily be regulated for either small or large volume delivery.

This flexibility in head types is matched by the simplicity of the pump's design — a design *in which there are only three moving parts, two of them pumping members* — a design which helps make possible the high efficiency of operation in the transfer, proportioning and processing of petroleum products and *low* pump maintenance costs.

Please wire or mail your requirements to Pump Division, The Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Connecticut.

TRADE YALE MARK
PUMP DIVISION

MAKERS OF THE FAMOUS YALE LINES
OF LOCKS, HARDWARE, HOISTS AND INDUSTRIAL TRUCKS

Industry Groups

Activities of local and national industry associations will be reported monthly in this department. Secretaries are invited to send reports of their group's activities, to reach us by the 20th of the month.

OHI of New England

FOR SOME TIME the Oil Heat Institute of New England has been working with the University of New Hampshire to outline a course of instruction for oilburner technicians or engineers. It is now reported that a two-year course is to be started soon, to include not only specific oilheating instruction, but also mechanical engineering drafting and basic mathematics.

Recognizing, however, that such a course will not quickly provide the needed service and installation manpower needed in the near future, the Institute is inaugurating a series of short courses to be held in ten New England cities. Present plans call for an eight week course with three weekly evening sessions of three hours each, or a 72 hour course. The Institute is to hire an experienced burner man to conduct the classes. The ten-city campaign is to be completed within a year.

The ten cities tentatively selected are Bangor and Portland, Maine; Boston, Worcester and Springfield, Mass.; Burlington, Vt., Manchester, N. H., Providence, R. I.; Hartford and New Haven, Conn.

Mass. Oil Heating Assn.

At the monthly meeting of Massachusetts Oil Heating Assn., held March 20 at Boston's Fox & Hounds Club, the principal speaker was T. H. Smoot, vice-president of Anchor Post Fence Co., and chief engineer of its Fluid Heat Division. His topic was, "Progress in the Art of Oilburning, Present and Postwar."

Wisconsin Oil-Heat Assn.

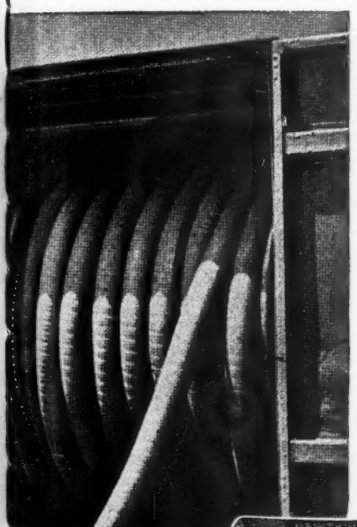
The Wisconsin Oil-Heat Assn., Milwaukee, has recently published a particularly meritorious survey of oilheating in 22 Wisconsin counties, showing both number of users and gallonage consumed and separated into six categories of use, such as domestic central heating, commercial central heating, etc. The totals for the 22 counties show 32,913 domestic central heating users, of which 12,226 are in Milwaukee, and 3,988 commercial central heating users, of which 969 are in Milwaukee.

Nat. Warm Air Htg. & AC Assn.

IN COLLABORATION WITH the University of Illinois, the National Warm Air Heating and Air Conditioning Assn. is preparing a training course to develop suitable technicians and craftsmen needed to meet the expanded postwar demands for heating plants. The training course will be built around a series of practical pamphlets, now in preparation at the University. Two completed bulletins deal with making heat loss surveys, floor plans and house construction. Others will cover the mechanical phases of heating.

Distillate Burner Mfrs. Assn.

E. C. LEACH, general manager of Lynn Products Co., Lynn, Mass., was elected president of the Distillate Burner Manufacturers Assn. at its Annual Meeting in Boston's Parker House on February 21. Other officers elected were J. W. Meyer, Jr., Winchendon, Mass., first vice-president, George Brumm, Worcester, Mass., second vice-president, Henry H. Morse, Gardner, Mass., secretary, and E. T. Isaac, Cambridge, Mass., treasurer.



Full Diameter Faster Flow . . .

ON OR OFF THE REEL

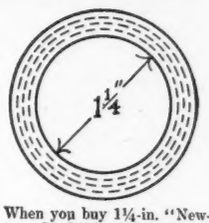
•

"NEWTYPE CORD"

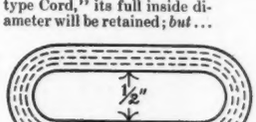
FUEL OIL HOSE

Patented non-flattening, kinkproof construction, and a "Synplastic" tube that will not swell under contact with oil, are features of "Newtype Cord" hose that assure a full inside diameter at all times, with oil delivered at maximum speed and volume. Light weight, easy to handle, and a cover that will take plenty of punishment, are additional reasons for equipping your trucks with this *quick delivery hose.*

Contact Our Nearest Branch or Main Office for Details



When you buy 1¼-in. "Newtype Cord," its full inside diameter will be retained; *but* . . .



With hose that flattens like *this,* you would actually get *less* flow than through "Newtype Cord" having only 1-in. diameter.

DIAGRAMS show the difference between "Newtype Cord" and hose of ordinary construction . . . a distinction that drastically affects delivery costs.

GOODALL RUBBER CO., Inc.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia - Trenton - New York - Chicago - Pittsburgh Boston

Goodall Rubber Co. of Calif. Goodall Rubber Co. of Texas

Factory—Trenton, N. J. Established 1870

WE ARE PARTICIPANTS IN THE OWNERSHIP AND OPERATION OF NATIONAL SYNTHETIC RUBBER CORPORATION

Reader's Problems

Q. On page 72 of your February issue, a reader asks you for methods to eliminate complaints about a water heating set-up that includes an oil burner, 18" boiler, and 400-gallon hot water tank. We service a similar water heating set-up, and after reading your item we added a tank temperature control to it in the way you describe.

We want to make use of some of the other pieces of advice you gave about such installations, but would like you to clarify them first because we are not sure we understand them. Answering the following questions about the item will help.

1. You said a stack thermometer should be used to make sure the firing rate is proper for the boiler capacity. What is a stack thermometer? How do you use it? Where can one be obtained? How can it tell me if this boiler has the right size fire?

2. Also regarding the fire, our job has a gun type oil burner and the flame seems better with the slots of the firing door kept open, so we have always kept them open. This makes the flame cleaner and brighter. Because some people who claim to know something about oil burners say that slots in the firing door should be kept closed, we ask if there is any harm in opening them when this improves the flame?

3. The hot water line from the top of the tank branches out somewhere in the building, on our job, into three hot water supply mains that go to different parts of the building. From the end of each of these three mains, a line comes back to the boiler room to tie in to the line that connects the bottom of the tank to the bottom of the boiler. There is trouble with these three circulating lines, we know, because we have been feeling them in the way you recommend, and we find them everything from scalding hot to stone cold at different times. Instead of keeping all the hot water mains hot the way they are supposed to, they permit a backwards flow through them that gives a mixture of hot and cold water from some of the faucets. We can't spend much money improving this job, so the idea of installing a circulator is "out." Therefore we ask what is the "check valve arrangement" you mentioned which might on certain installations give some of the benefits of a circulator?

W.R.M., *Milwaukee.*

In answer to your first question: You can obtain a stack thermometer together with technical instructions for using it from any manufacturer of combustion testing instruments, or from a supply house that specializes in oil heating equipment. Briefly, you drill or punch a hole in the smokepipe near the boiler, to insert the thermometer (see diagram) and find out the temperature of the hot gases leaving the boiler through the smokepipe. The installation discussed originally had a vertical rotary burner. This type burner does not use a calibrated atomizing nozzle, as does a pressure type gun burner, therefore the original inquirer had no

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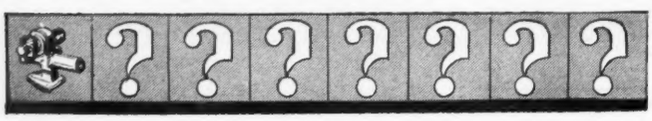

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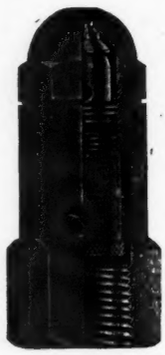

Fig. 246

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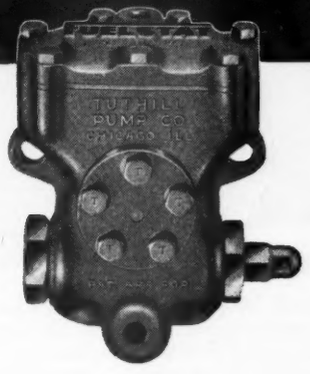

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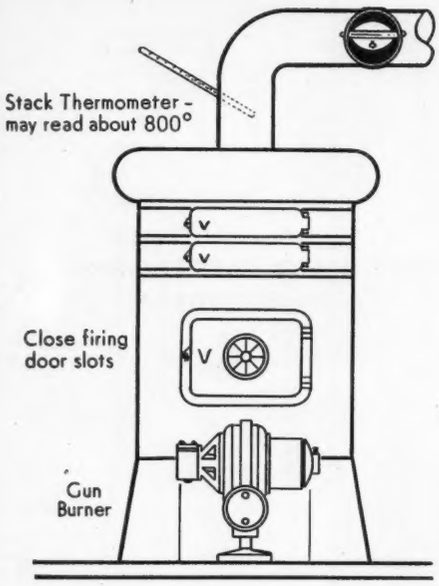
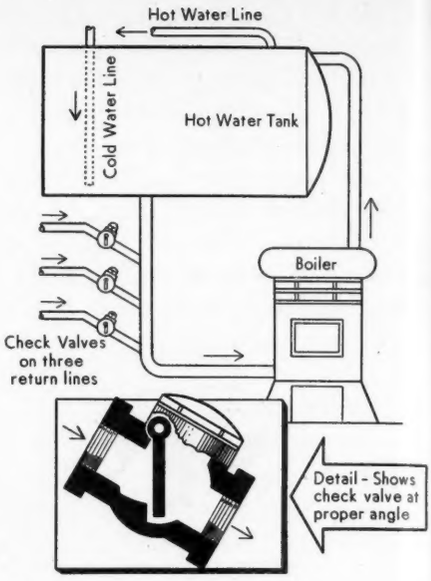


easy way to tell if he was underfiring or overfiring the boiler which gave the trouble. We suggested he check with a stack thermometer because with this type boiler a reading lower than about 600° would indicate underfiring, and a reading higher than about 900° would indicate overfiring or poor absorption of the heat from the flame by the boiler. All-in-all, when fired to produce its rated output, a boiler of this type, with scanty flue travels, may give a stack temperature of 800° without surprising a burner expert who has made combustion tests of a good many boilers. A reading of 800° is higher than comes with good boiler efficiency, but may be unavoidable on your installation if it is necessary to obtain nearly the rated output from the boiler, or if the boiler is not large enough to absorb efficiently the heat from the smallest flame you can obtain from the burner which fires it.

Answer to your second question: Sorry, but we have to agree with the critics who say the firing door slots must be kept closed for the sake of high efficiencies. You can't judge flame quality by eye. Combustion testing instruments (stack thermometer, draft gauge, and CO_2 tester) should be used on this installation to find out if combustion is really poorer with the firing door slots closed. If it is, the defects which make the combustion poor with the slots closed should be eliminated. The flame may be big for the boiler, if it is necessary to open the slots to eliminate chimney smoke and sooting the flues of the boiler, or the firebox


Hot Water Line
Cold Water Line
Hot Water Tank
Boiler
Check Valves on three return lines
Detail - Shows check valve at proper angle

may be deteriorated, undersize for the flame, or of poor design. Perhaps only a new nozzle and a tune-up of the burner is needed. We suggest that you fill the firing door with the proper high temperature insulating material to settle once and for all the matter of opening the slots.

Your third question: The accompanying diagram shows the special check valve arrangement we had in mind. Using what-

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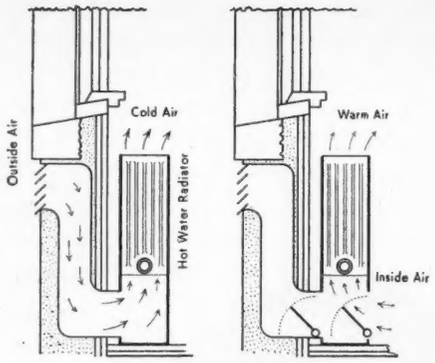
ever is needed in pipe nipples and elbows, install the check valves at the angle which keeps the flaps just off their seats (by about 1/8" to 3/8" at the bottom of the flaps) when there is no flow of water through the check valves. When there is no tendency for the water to back up through the return lines, the check valves should stay slightly open, but definitely open to permit the water to circulate in the proper direction at the mere suspicion of a tendency to circulate properly. Swinging freely just off their seats with no flow of water through them or with the water flowing sluggishly in the desired direction, the flaps will slap to their closed positions when the opening of hot water faucets gives a tendency for reverse circulation. Install one check valve in each of the three return lines you describe. Plan to have the check valves one pipe size larger than the lines you will install them in. These principles for making check valves work properly without acting as a brake to tendencies for flow in the proper direction are applicable to several types of check valve problems.

* * * * *



Q. Here is a sketch (left hand diagram) of an old fashioned hot water radiator which is giving trouble, especially now that fueloil is rationed, because outside air flows to the bottom of the radiator, up through its casing, then into the room. With the radiator cool because the room thermostat is keeping the burner idle, the outside air flows into the room unheated. On a zero day, that's bad. The owner likes ventilation and does not want to do without it. Also, he does not want his fine old mansion all cut up just because fueloil is rationed for the time being. The wood work around the radiator is fine, old, rare wood. Changes will be made by next fall, however, and we will appreciate your giving us sound and dependable ideas on just what should be done. The old gentleman has no use for new-fangled notions.

G.J.T., *Yonkers.*

A. You should find little opposition from the owner to installing the two dampers shown in our diagram at the bottom of the radiator (right hand diagram) because in the Gay Nineties many radiators of this type were installed exactly this way. There's nothing new-fangled to the improvement, therefore, and your customer should like it. Obtain an inside-air grill that matches the wood work in the room, or have one made of suitable hard wood by a good carpenter. As this will run to considerable expense, you may have the carpenter deal with the owner directly, and do the work to suit him. We show two dampers, one for the outside air coming to the radiator, and one for the inside air. The idea is to close the outside air damper as much of the time as the owner will permit, or if necessary to please him keep it open only an inch or two. Don't keep both dampers open in any event, for

+ OR —
5/100ths
G.P.H.!!

Fig. F-80

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YOU SHOULD. Because if every man Jack (and every girl Jill) buys nothing he can get along without . . . (avoids Black Markets and "just-a-little-above-the-ceiling" like the plague!) . . . pays off the mortgage or any other debts . . . takes out more insurance . . . builds a healthy sock of savings . . . buys and holds more War Bonds—inflation will stay away from our door.

And Jack and Jill will be in a sound position no matter what times come.

Maybe you ought to clip this signpost and paste it in your pocketbook as a reminder that you can BUY your way to bad *times. Or you can SAVE your way to* good *ones.*

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4 THINGS TO DO to keep prices down and to protect your own future!

1. Buy only what you really need.

2. When you buy, pay no more than ceiling prices. Pay your ration points in full.

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A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

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this would permit outside air to sweep into the room from under the radiator.

To do a better job, install a very small centrifugal blower in the outside air duct, fitted with a damper opened by air pressure when the blower operates, but otherwise closed. Use a small duct to direct the blower air to the bottom of the radiator, and straight upwards through the radiator. When the blower is idle, its duct will be tight-closed, and the radiator will receive air from the room through the wide open inside-air damper. Have the blower started and stopped by a temperature control mounted on the radiator and adjusted to start the blower motor when the radiator temperature exceeds 120°, 140°, or some other selected temperature. Regulate the amount of blower air properly so that with the blower running the air it delivers is properly heated. Setting the control high, so that the radiator must be very hot before the outside air is taken in, will give less ventilation than setting the control low.

From what you say it appears that there are long oil burner "off" periods even during severely cold weather, and that adjusting the installed thermostat and other controls, or installing modern controls that give steady heat from the radiators during cold weather, will improve comfort greatly in the house.

* * * * *

Q. As a steamfitter, I put in hundreds of one-pipe steam plants for low-price homes and hardly a one was fitted with what you'd really call a good steam main quick vent. For some, we did use what amounted to a radiator vent valve with a vertical shank, but on the end of a steam main this amounted to nothing. Now these ordinary steam plants work, and that brings up the question of whether or not we can conscientiously tell the owner of a steam plant, when he wants us to improve it, that he really must have a good, high-priced steam main quick vent. On top of that, every so often you hear of a case where installing a real quick vent caused the oil consumption to go higher instead of lower. I want the facts from the oil heating angle.

J.S.S., *Brooklyn, N. Y.*

A. Properly tuned for oil firing, the heating plants you mention that have no real steam main quick vents would undoubtedly work still better when equipped with quick vents. The improvement is marked because of the modern trend in these directions:

1. The "on" periods of oil burners are shorter now than in earlier years of oil heating. To give the steadiest heat practical, a room thermostat may run a burner for only 15 or 20 minutes at a time.

2. For the sake of fuel economy, lower firing rates are being used than formerly.

Because of these two factors, an oil burner generates only a small amount of steam during a typical "on" period. It does not generate enough steam to fill all the radiators. This creates the important practical problem of distributing the steam properly, so that each radiator receives its share of the small amount of steam that is generated.

The accompanying diagrams show the problem graphically. The first shows a plant with four radiators on one main, and no steam main quick vent. During a

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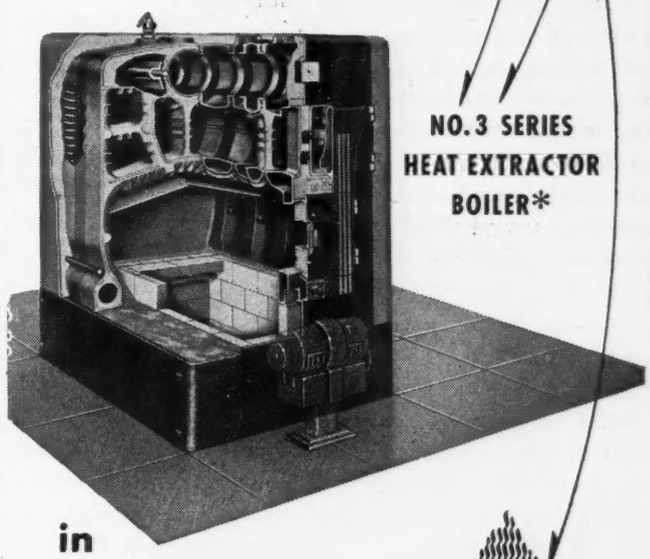

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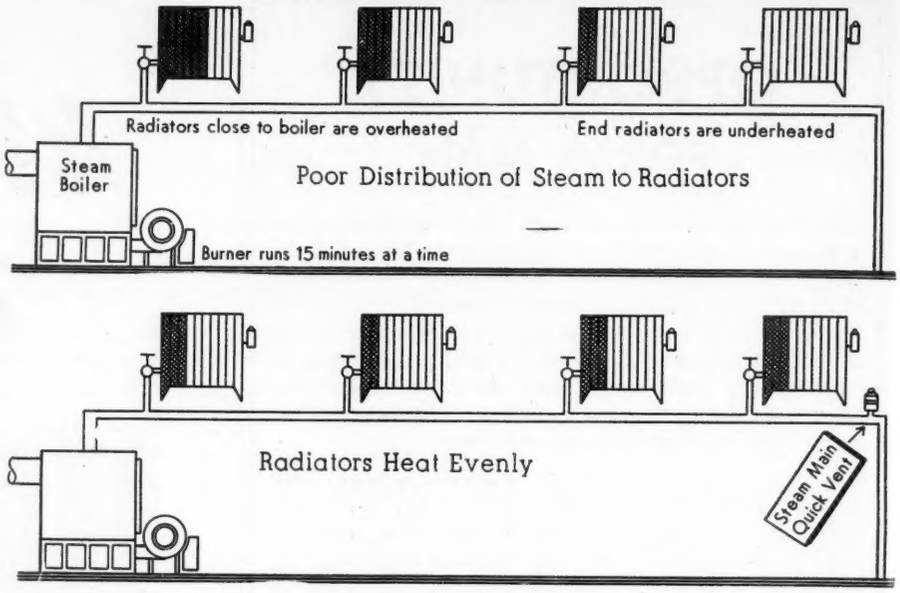
typical oil burner "on" period of about 15 minutes, the radiators receive about one-quarter of the amount of steam needed to fill them. The radiators nearest the boiler receive most of this steam because (a) the steam reaches them first because it does not have to travel far to them, and (b) although the boiler develops but a breath of pressure during the short oil burner "on" period, there is higher pressure on the radiators close to the boiler than the more distant radiators. Of course, it takes time to heat the entire steam main to steam temperature, and the distant radiators can not receive steam until this main has been heated.

The second diagram shows the same plant equipped with a good steam main quick vent. Because when open this has a venting rate several times that of all the radiator vent valves put together, it permits the first steam to be generated to drive the air from the entire length of steam main. This avoids giving the radiators closest to the boiler a head start, and is a real help, and a much-needed help in arriving at proper distribution of steam to every radiator with short oil burner "on" periods and the low firing rates that give low stack temperatures.


Radiators close to boiler are overheated
End radiators are underheated
Steam Boiler
Poor Distribution of Steam to Radiators
Burner runs 15 minutes at a time
Radiators Heat Evenly
Steam Main Quick Vent

You should install adjustable radiator vent valves as well as steam main quick vents on every job you tune for oil firing. Check also on the oil burner "on" periods, for these obviously must not be too short or too long, and on the firing rates compared to the loads.

It is conceivable that the installation of a steam main quick vent increased the fuel consumption of one of the installations you had in mind, for without the quick vent the radiators closest to the room thermostat (and closest to the boiler) may have heated with short oil burner "on" periods, while the other radiators stayed cold; the installation of the quick vent may have caused all the radiators to heat properly, given heat to rooms that had none before, and so increased the oil

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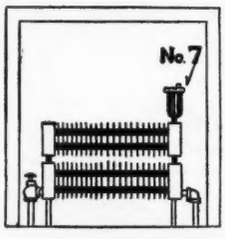

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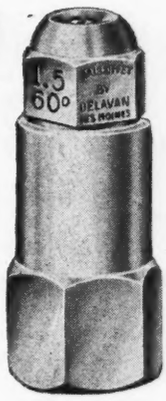

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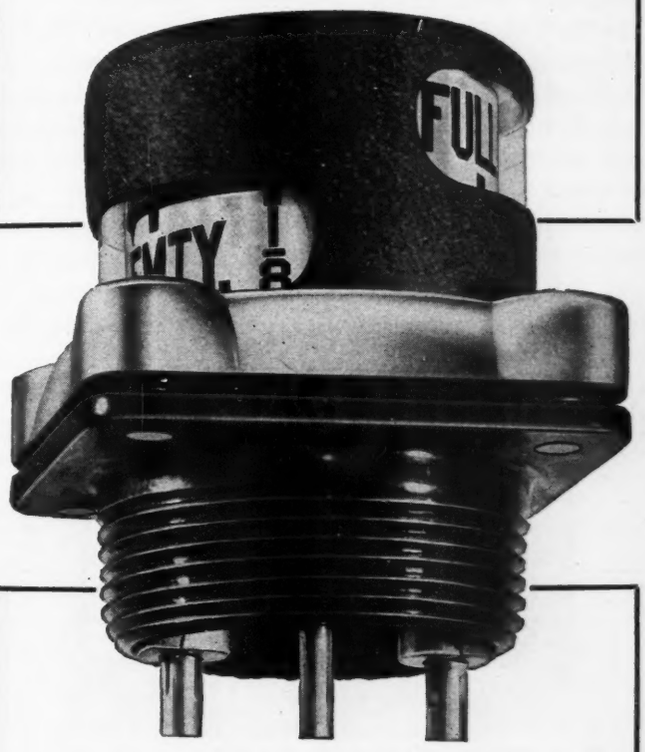

Here's reason enough for standardizing on Rochester Universal Gauges for basement type oil storage tanks. Other reasons are the dual dial that makes reading easy for both the owner inside the basement and the delivery man outside, low cost, accuracy, ruggedness, easy installation and the fact that they bear Underwriters Listing for hazardous fuel.

You are selling customer satisfaction and insuring yourself against troublesome gauge servicing calls when you supply Rochester Universal Gauges. Obtainable on AA3 priority from your jobber.

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8 ROCKWOOD ST., ROCHESTER 10, N. Y.

Makers of Fine Gauges

"FOR THE TRUE INSIDE STORY"

ROCHESTER Individually Calibrated GUARANTEED ACCURATE INSTRUMENTS

FOR ACCURATE LIQUID-LEVEL PRESSURE and TEMPERATURE INDICATION

consumption. You save oil by underheating the unimportant rooms, of course, but it's best to arrange for this rather than have it happen by accident.

All-in-all, if you equip about a dozen of your pet steam heating plants with the best steam main quick vents you can buy, and then study the improved heating that comes of doing this, we are certain you will come to the conclusion that the best in quick vents are worth their price to the owners of the oil burners you service.

◈

Q. Here are notes and questions regarding a trouble job on which we would appreciate your advice.

1. The oil burner runs for 45 minutes and then stops for only a few minutes and starts again. It does this all day long, even though the building has reached the desired temperature.

2. The pressure control is set for four pounds. With three pounds steam pressure on the boiler, the burner stops. It starts again when the boiler pressure drops to zero. Setting the boiler temperature control at 150, 200, or 220 makes no difference. What can be done?

3. Not enough hot water from the tankless type water heater built into the steel boiler, rated at 110 gallons per hour. Small amount of cold water comes through gate valve.

4. The flue pipe is four feet long and runs very hot, showing a great loss of heat up the chimney. What can I do to prevent the escape of excessive amounts of heat without making the smokepipe longer? I read on page 90 of your January issue how on one installation additional lengths of smokepipe were installed to take heat from very hot gases on their way to the chimney, but I can't use this method.

5. Excessive amounts of soot are deposited in the flues of the boiler.

6. Details about the installation: The boiler is steel, of orthodox design and well-known make. Controls include a stack-mounted panel, a low water cut-off, Aquastat for summer control, pressure control, and room thermostat.

Your reply will be greatly appreciated.

B.A.S., *Des Moines, Ia.*

A. Your first and second points indicate that the room thermostat does not stop the burner even when the building overheats.

Set the room thermostat at the lowest point possible and find out if this keeps the oil burner idle as it should. With the temperature about 70° at the thermostat, set the thermostat down to 60° or 55°. The burner should stay idle. Raising the room thermostat all the way should start the burner. Make this test with the boiler temperature control set at about 180°; incidentally, use that setting of this boiler temperature control for the winter, or at least use it until you have cleared up a few of the troubles. Check the calibration of the room thermostat and boiler temperature control; or, if you do not know how to do this, install a brand-new room thermostat and boiler temperature control to determine if this eliminates the trouble. Check the entire wiring of the installation. The burner should stay idle, for example, when the contacts of the room thermostat are open and the switch of the boiler temperature control is open. If it does not stay idle under these conditions, the wiring is wrong or there is a short-circuit in the low-voltage wiring which gives the same effect as making the room thermostat demand heat all the time.

Make sure the thermostat is located properly on an inside wall of a room that heats to 70° quickly when steam pressure

Get FUEL-SAVING FACTS with this modern COMBUSTION TEST SET

Cooperate with our government's National Fuel Efficiency Program and build your reputation for expert, fuel-saving service . . . by using these practical instruments to make efficiency tests of heating plants.

The easy-to-use FYRITE quickly indicates CO^2 in the flue gas, thus showing whether the fuel receives the proper amount of air. The Stack Thermometer test shows how well the furnace absorbs the heat of fuel burned. The unique FIRE Efficiency FINDER correlates CO^2 and stack temperature readings to show at a glance preventable chimney losses. The handy dry-type DRAFTRITE gauge is indispensable for properly adjusting the draft.

For prices, and complete particulars about the Fyrite Combustion Set, write for Folder 4401.

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MOTORS — TRANSFORMERS — CONTROLS
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PARTS

Parts for All Types and Makes of Burners.

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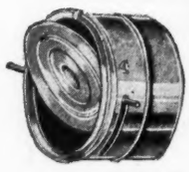

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is maintained by the boiler. Fasten to the room thermostat a thermometer you know is fairly accurate, and do this: Turn off the main switch of the oil burner and keep it off until this thermometer (at the thermostat) drops to 68°. Then turn on the main switch and run the burner for exactly one hour. Now check the radiators in the room in which the thermostat is located; they should be heated fully, chuckful of steam. (If they are not, you'll have to correct that trouble. After all, the boiler may be overloaded, or the venting may be poor.) Now check also the room temperature. The thermometer which read 68° to begin with should now read 70° or higher. (We are assuming you will make this test with the outside temperature at about 35° or slightly higher.) If the radiators have heated properly but the thermometer reading has not come up to 70°, there is insufficient radiation for the heat loss of the room. To get better results, you'll have to install more radiation, or take drastic steps to lower the heat losses of the room so that it becomes easier to heat. Storm doors and windows may be needed, and rock wool or similar effective insulation for the outside walls and for any cold ceiling area may be needed.

Your third question, about getting insufficient hot water from a tankless type heater rated at 110 gallons per hour, raises doubts about the heater's being piped properly and about the heater capacity being sufficient for the hot water demands. After all, this heater is good for a rate of flow of less than two gallons per minute. With fairly high city water pressure, opening just one good-sized hot water faucet wide will probably give a rate of flow higher than this. If the heater is in good condition (coils free from sediment or clogging) and installed properly, after you have corrected the other shortcomings of the installation you may want to consider installing a tankless heater of greater capacity, or installing a hot water storage tank of suitable capacity to use with this present heater if the coils are adaptable to this.

Your fourth item refers to an idea described in FUELOIL & OIL HEAT, but properly termed a "Rube Goldberg oil-stretcher" in the description you saw. Apparently you have not used combustion testing instruments to measure the stack loss of this installation. If this is true, then you do not know if the loss of heat to the chimney is low or high. You can't guess at CO_2 readings, stack temperatures, and draft intensities and expect to be able to understand and handle the problems related to proper combustion and low oil consumption. One reason this installation is giving trouble may lie in its never having received the benefits of combustion testing. We recommend that you buy a set of combustion testing instruments for measuring draft, stack temperature, and CO_2.

Your fifth point relates also to combustion problems which can be handled intelligently only with the help of combustion testing instruments. Since sooting is a big trouble on this installation, a well-engineered firebox which comes to red-heat quickly may be needed together with skillful work of tuning the burner for high efficiencies and clean burning.

For Your Information

Knowing the A-to-Z of CO_2

A booklet, chuck full of educational articles about CO_2 tests, high oil cost problems, and the combustion problems encountered on actual installations.

Written in language which is understandable to the man who has not had an engineering education, this booklet deals entirely with the problems of testing actual installations for CO_2, draft, and stack temperature. It covers the underlying principles of combustion tests, then reveals in an interesting way how to apply these principles to cut oil bills. Different articles give test readings from actual installations, practical instructions for obtaining 10% CO_2, five ways to figure gph rates, and directions for building modern, efficient fireboxes. Problems involving poor draft, flame pulsation, and hot water layouts are included.

This booklet fulfills the requirements of oil companies and oilheating dealers who are making combustion tests to get more business and greater profits. It serves to educate the salesmen and servicemen of such companies.

32 pages; 35 tables and illustrations; price $1.00.

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These two bulletins of diagrams and illustrations show how Blackmer pumps are self-adjusting for wear and why the BUCKET DESIGN (swinging vane) principle cuts pumping costs.

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Bulletin No. 306: Facts About Rotary Pumps.

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SERVING THE PETROLEUM INDUSTRY FOR OVER 40 YEARS
BULK STATION PUMPS · TRUCK PUMPS · HAND PUMPS

Salesman Money

(*Continued from page* 36)

of the dealer to determine how much to pay for each operation, the rate of commission, and his men's ability to close sales.

The reasoning behind this method is that if a salesman can be bribed into doing the necessary preliminary work, the matter of closing the well-developed prospects will just naturally follow with reasonable regularity.

The odd thing about *the sliding commission arrangement,* is that it may work either up or down; commissions may be made to increase or decrease with a rise in the volume of sales, and the exponents of those two variations will argue long and loud for their plan.

The fellow that increases the rate of commission rate as sales increase claims that he thinks this is the only way to accelerate effort towards the end of the given sales period, when normally the salesman would be slowing down.

The dealer who decreases commissions as volume increases justifies his method on the grounds that he pays an extra-high rate on the first sales so as to assure his men a liveable income from a limited number of sales, and then must recover his losses when by some act of Providence they have an extra big month.

The straight commission method, familiar to all, has been used more extensively than all other methods combined, not only in the automatic heating business, but in most industries where specialty retail selling is required.

It has been recognized for years that straight commission had its weak points, but it is also quite obvious that any method that has been applied so broadly over so many years must certainly have had strong basic advantages for both the employer and the employee that cannot be entirely ignored in any future planning. Nevertheless, we hear this old American custom today being roundly dammed by people from all walks of life. The din and the racket has become so loud that in the absence of concrete suggestions for improvement, we find ourselves moved to wistful wonder.

The writer has, over the period of years, had the opportunity to see all the foregoing methods in operation and has seen scores of sales managers and dealers manipulate them in practice on hundreds of retail salesmen, and the fact that stands out most prominently in a re-examination of these systems is that with the bare exception of the percentage of the gross method, salesmen invariably make the same kind of incomes from one as from another. This brings us to the considered statement that the dealer's margin is the crux of the question, for dealers by-and-large pay the salesmen in one form or another (regardless of method) the last dollar that they can afford, but a dollar is a dollar no matter how you slice it.

In prewar, dealer margins were such that dealers were limited to 10% and 12% commissions, which has always been low for creative selling. True, when a dealer is doing his own selling and pays from his overhead from store traffic, this margin has proven adequate. But the problem is not how to pay dealers who have multiple sources of income, but salesmen who live from their individual productive effort.

The arithmetic is simple. Top-notch salesmen have been recognized for years

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MORE FORD TRUCKS ON THE ROAD . . . on more jobs . . . for more good reasons!
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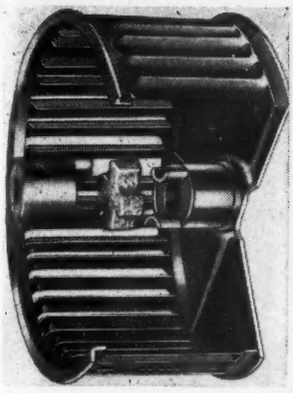

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as those who can find, develop, and close fifty or more jobs, and by present standards of commission, this man can make a fair living. However, these are the stars and there are far too few stars to go around. As a result, most of our sales people are of the calibre who sell closer to twenty-five jobs annually, and twenty-five sales at 10 or 12% is starvation in any man's territory.

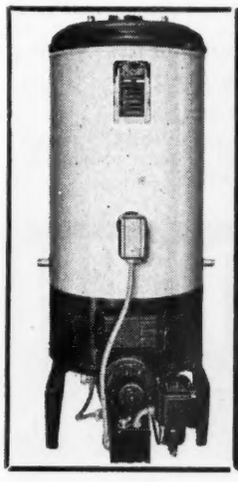
It seems that we might begin to make some progress in our thinking if we could set up an operating budget in which we based our sales cost estimates on ordinary salesman production, rather than on the hope that we will always be able to employ star salesmen. For we know from bitter experience that we delude ourselves if we think we can attract many top-flight salesmen to do creative selling for the kind of money the industry now pays. This type of thinking will be difficult for most of us for we have been so accustomed to the old 10% formula that it has become almost sacred—at least with auditors and bookkeepers, who have had far too much control over sales policies in the past. If we made an honest cost projection for doing business, we certainly should find that it costs closer to 20% than 10% to pay for having creative selling done—at least by sales people of ordinary ability.

If a way could be found to pay the ordinary 25-burner man, we could not only support substantial sales forces of average calibre, but we would attract far more men of extra ability. The dealer could not make this transition on his initiative alone. He would need the wholehearted support of manufacturers, who control retail prices to a far greater extent than is generally admitted, but with the manufacturer's help and cooperation, certainly a satisfactory rate of pay can be established. If the commission rate can be raised by broadening the dealers' margin, we can place ourselves in a position to attract better men, reduce turnover, and offer a fair living to the ordinary type of salesmen, on whom we must depend for the bulk of our selling.

It is certainly time that the segment of American business that depends on creative selling provided the means to get the job done, and we believe that the public would complain no more about our recognizing a human necessity in the selling business, than they have about raising the standards of living of the coal miner or the steel worker. If a program could be adopted along the lines suggested, you, Mr. Dealer, can take your pick of almost anyone of the methods of compensation listed earlier, and you will find it generally satisfactory, for men buy groceries with money and not with methods.

◈

Rodney F. Lauer, manager of the Washington National Service Office of the York Corp., York, Pa., has been named district manager of the company's California operations with headquarters in Los Angeles. *Mr. Lauer* began working for York Corp. while still an undergraduate at Cornell University. On his graduation as mechanical engineer in 1930, he joined the company as student engineer. He then was assigned to the Philadelphia branch and worked there as an application engineer and later as Sales Manager of Southern District of that territory until 1942 when he became manager of the Washington office.



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THE FOURTH ARMY-NAVY "E" award presented to the Brown Instrument Company for war production excellency was accepted by a group of honorably discharged veterans of World War II on behalf of their fellow workers.

"I believe it is the first time," said E. B. Evleth, vice president and general manager of the company, "that a group of veterans of this war, all former employees, have been the sole participants in

accepting war production honors. We selected these men because we felt they represented both the fighting men in our armed services and the workers on the home war front. All were Brown workers before they donned Army, Navy and Marine uniforms."

Mr. Evleth pointed out that the Brown company, a division of Minneapolis-Honeywell Regulator Company, has rehired every honorably discharged veteran who was a former employee and who sought reemployment.

◈

May Wins Second "E" For War Production

MERITORIOUS SERVICES on the production front, in the manufacture of a wide variety of vital war materials, have won for the May Oil Burner Corporation, Baltimore, a second Army-Navy Production Award, six months after the original award was received.

A White Star, symbolizing the award, has been added to the "E" Flag flying over the Baltimore plant. A. Klotzman, vice-president of the corporation, received notification of the award.

◈

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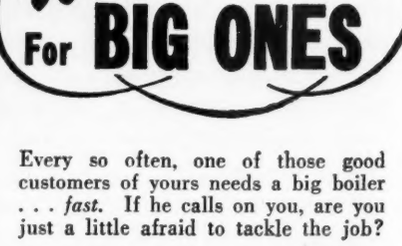
Every so often, one of those good customers of yours needs a big boiler . . . *fast.* If he calls on you, are you just a little afraid to tackle the job?

You needn't be, if you call on H. B. SMITH, for SMITH has a complete line of modern large cast iron boilers for all types of buildings and for all types of fuels. Smith engineers who are "big job conscious" are available to help you, too.

Why not plan to use SMITH product and service on your next big job.



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DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE (Sept. 1 to Feb. 28)			
Normal	February 1944	February 1945	Percent Change*		Normal	1944	1945	Percent Change*
1174	1203	1124	— 4.3	Albany	4862	5200	5410	+10.9
568	434	463	—18.5	Atlanta	2405	2302	2435	+12.4
844	783	735	—12.9	Baltimore	3413	3340	3571	+ 4.6
1027	1030	965	— 6.0	Boston	4215	4301	4417	+ 4.4
1168	1156	1088	— 6.9	Buffalo	4772	4969	5111	+ 6.9
1085	1044	1014	— 6.5	Chicago	4539	4641	4885	+ 7.7
905	786	858	— 5.2	Cincinnati	3806	3758	4115	+ 7.9
1074	983	997	— 7.2	Cleveland	4389	4469	4778	+ 8.7
445	382	419	— 5.9	Dallas	1985	2014	1961	— 1.2
900	942	847	— 5.9	Denver	4198	3997	3960	— 5.7
1143	1048	1052	— 8.0	Des Moines	4893	4665	4843	—10.2
1141	1053	1046	— 8.3	Detroit	4738	4702	4916	+ 3.9
1150	1138	1087	— 5.5	Grand Rapids	4855	4797	4965	+ 2.1
1062	1063	1042	— 1.9	Hartford	4425	4638	4876	+10.0
1155	1213	1074	— 7.0	Helena	5566	5536	5594	+ 0.5
253	164	195	—22.9	Houston	1129	1145	1088	— 3.6
982	877	927	— 5.6	Indianapolis	4139	4048	4311	+ 4.2
921	847	840	— 8.8	Kansas City	3881	3855	3767	— 2.9
232	329	244	+ 5.0	Los Angeles	891	947	888	— 0.3
824	687	775	— 6.0	Louisville	3432	3291	3650	+ 5.8
1181	1145	1126	— 4.7	Milwaukee	5025	4987	5360	+ 6.8
1379	1290	1326	— 3.9	Minneapolis	5981	5553	5742	— 4.0
251	115	175	—30.2	New Orleans	1045	1092	1023	— 2.1
958	936	857	—10.6	New York	3842	3890	3984	+ 3.7
1098	1068	1016	— 7.5	Omaha	4695	4619	4606	— 1.9
885	853	874	— 1.2	Philadelphia	3539	3583	3949	+11.4
971	894	929	— 4.3	Pittsburgh	4042	4058	4567	+13.1
1184	1273	1201	+ 1.4	Portland, Me.	5082	5522	5534	+ 8.7
622	606	575	— 7.6	Portland, Ore.	3073	2827	2794	— 9.1
1032	1004	944	— 8.5	Providence	4292	4213	4282	— 0.2
865	778	840	— 2.9	St. Louis	3593	3545	3899	+ 8.3
868	941	801	— 7.7	Salt Lake City	4176	4516	3956	— 5.3
340	386	373	+ 9.7	San Francisco	1734	1559	1955	+12.8
1478	1397	1351	— 8.6	Sault Ste. Marie	6284	6121	6416	+ 2.1
644	614	595	— 7.6	Seattle	3221	2852	2833	— 9.0
1090	1069	1051	— 3.6	Toledo	4553	4792	5104	+12.1
842	778	743	—11.7	Washington	3496	3441	3582	+ 2.4

*Compared with normal.

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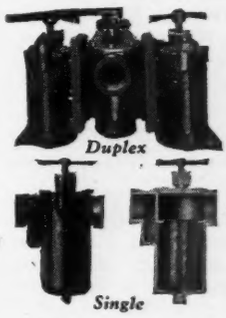

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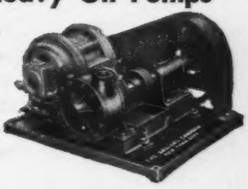
Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.



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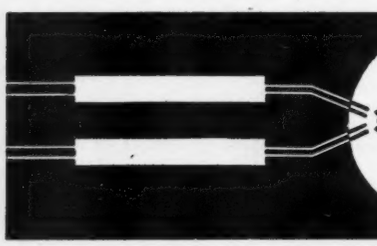

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